

# AGRICULTURAL OUTLOOK

September 1990

Economic Research Service  
United States Department of Agriculture

☐ California's  
water system  
shields farmers  
from drought  
...so far.

☐ Iraq faces  
Embargo.

# AGRICULTURAL OUTLOOK

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## News of Food Prices, the Iraqi Embargo, "Industrial" Crops, and Sub-Saharan Reforms

**F**ood prices are expected to average 5 to 7 percent higher this year than in 1989. This is a 2-percentage-point increase from USDA's initial food-price forecast made last December. Double-digit price gains in the first half of 1990 for fresh fruits, pork, eggs, and dairy products, along with the uncertainties about future energy prices, are behind the revisions.

However, most of the year's price increases probably took place in the first half. Gains in the second half are expected to be more modest. This assumes that most of the evolving oil price shock will take until next year to spill over into food prices.

Higher oil prices resulting from Iraq's invasion of Kuwait will increase the cost of growing, processing, packaging, and distributing food. Because of the rapidly changing situation, it's unclear how much and how fast the increases will ripple through food prices.

While food transportation costs probably will rise in coming months, rail costs are partly shielded from short-term movements in fuel prices. Railroads often hold significant inventories of diesel fuel and buy fuel under long term contracts. For barge transport, this summer's lower freight rates suggest competitive pressures will limit rate increases in the fall.

The U.N.-sponsored general trade embargo will significantly cut Iraq's food supplies. Because imports usually provide more than 75 percent of Iraq's caloric needs, its citizens will see very tight food markets in coming months. Last year, about one-fourth of Iraq's agricultural imports came from the U.S. Other major suppliers have been Australia, Canada, the EC, and Turkey. Iraq's agricultural import situation is being monitored and the implications for trade are being re-evaluated continuously.

Global conditions point to a bumper wheat crop. A sharp rebound in this



year's U.S. crop and a record foreign crop are pushing output above expected use. For the marketing year beginning June 1, the U.S. average farm price is forecast to be \$2.65-\$3.05 a bushel, down from July's estimate and down from the \$3.72 average of the past 2 years.

While world coarse grain output is still expected to trail use, prospects are improving as the summer progresses. Output gains in the USSR are mainly behind the recent changes. Forecasts of average U.S. farm prices for the 1990/91 marketing year weakened in August, but are around last year's levels.

U.S. soybean and meal exports are forecast to be 18.2 million tons (soybean meal equivalent basis) in 1990/91, 31 percent below the 1981/82 record and well below the 10-year average. However, evolving supply conditions in the U.S., Argentina, Brazil, the EC, and China point to a possible halt in the decline. Nonetheless, Eastern Europe and the Soviet Union stand to be highly variable

customers; a lack of economic growth there would put downward pressure on U.S. exports.

The House and Senate versions of the 1990 farm bill include provisions to support commercializing industrial uses for various crops. For example, soybean oil is used to make printers' inks and kenaf is being developed as a source of paper pulp. Some differences remain between the Administration's and Congress' approaches to commercialization.

In California, despite cutbacks of up to 50 percent in surface water for irrigation, crop producers in most irrigated areas will experience only slight declines in output. That's because of the state's sophisticated water supply system and because many growers switched to more expensive groundwater rather than do without. Livestock producers, however, will be squeezed as forage supplies dwindle. Moreover, a fifth drought year in 1991 would sharply curtail surface water deliveries and severely affect output and producers' net returns.

Market-oriented reforms, better weather, and increased international support have brightened agricultural prospects for some Sub-Saharan countries. Sustaining these improvements depends on the region's ability to surmount some deeply rooted problems, including rapid population growth, war, international debt, slipping export prices, and climbing import prices.

Countries successfully undergoing reforms have also benefited from increased donor support to boost investment and pay for more imports. Ghana, Madagascar, and Senegal have all pulled up their growth rates, illustrating that Sub-Saharan countries can turn around. More reliance on market systems, improved farming technologies, better input-delivery systems, and more effective extension services would improve the chances for sustainable agricultural growth.

## Agricultural Economy

## Income-Based Payments Blocked

Earlier this summer, some members of Congress moved to link farm program payment eligibility to the income of individual recipients. Congressmen Dick Armey (R-Tex.) and Charles Schumer (D-N.Y.) introduced a bill that would have made those who reported an adjusted gross income (as defined for tax purposes) of \$100,000 or more ineligible to receive farm program payments.

In July, their proposal was defeated in the House during floor action on amendments to the farm bill. Nonetheless, these efforts reflect a growing public concern about the distribution of federal farm program payments that is unlikely to disappear after the 1990 farm bill.

### Programs Aim To Boost Income

One of the main purposes of the 1985 farm bill was to boost farmers' incomes. At the same time, the bill was intended to cut large grain stocks by lowering loan rates and relying on the Acreage Reduction Program. The mechanism used to reach these policy goals routes most direct government payments through deficiency payments that are based on the amount of a supported commodity produced.

While significant farm program benefits go to those farm households with low or negative net incomes, a larger share and larger average payments go to households with the highest incomes. This observation is based on the distribution



of direct payments by total household income (net farm business income, including government payments, plus off-farm income) using data from USDA's 1988 Farm Costs and Returns Survey (FCRS).

The FCRS income measure is quite different from incomes reported for tax purposes. In particular, a study of federal tax returns showed that farm income

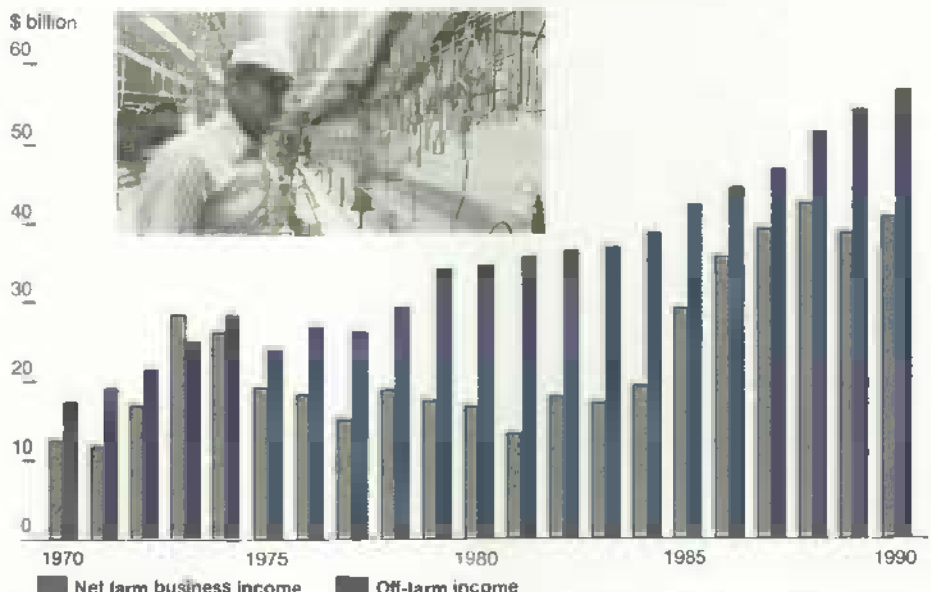
made up a smaller share of total household income than was indicated by the FCRS. In addition, the FCRS does not collect information on the incomes of share-rent landlords who receive government payments.

FCRS sample data represent income conditions for 1.8 million of the 2.2 million U.S. farms. Most of the 400,000 difference is farms with sales of less than \$40,000. Also excluded from the analysis are nonfarm landlords and other non-operator households who receive government payments.

About 92 percent of the farms in the FCRS were operated as sole proprietorship businesses. Here, all farms in the sample are treated as single household farms. However, many farms, especially larger operations, have more than one household that shares in the farm's income and payments. So, the data on payments per farm overstate the amount of payments per household.

About 12 percent of all farm operator households reported zero or negative total income from all sources. Nearly half of these reported receiving direct government payments. About 23 percent

Farmers Earn More Than Half Their Income from Off-Farm Sources



Net farm business income equals gross cash income minus cash expenses minus capital consumption allowance.



## Farmers Have Caught Up

As a group, farm operator households have entered the U.S. mainstream; they no longer have low incomes relative to nonfarm households. Back in the 1930's, when farm commodity programs were initiated, average farm family income was about half that of all U.S. families. By the late 1950's, the share was still only about 60 percent.

But today, farm operator household income, on average, is on par with nonfarm family incomes. This challenges the popular view that farm commodity programs now assist a relatively disadvantaged group.

Some farm families continue to have serious income problems. But the drop in farm numbers and rise in average income mean that these problems are not as pervasive as they once were.

Farm poverty rates today are low by historical standards and the farm poor are a small part of the U.S. poverty population. This contrasts sharply with 1959-60, the first years for which poverty data were calculated, when over half of the U.S. farm population was poor and one in five poor people lived on a farm.

Off-farm income growth has been critical to this improvement. Farmers' household income from off-farm jobs, nonfarm investments, and nonfarm transfers has exceeded net farm business income (net cash farm income less depreciation) since 1973.

One recent study shows that about half of all farm households depends primarily on off-farm income for family living. Nine out of ten of these households operate farms with annual sales of less than \$40,000. These smaller farms typically generate low or negative net farm incomes.

For 45 percent of all U.S. farm operators, farming is a second job. Many are machinists, manufacturing production workers, or lawyers first and farmers second. Growth of nonfarm job opportunities in rural areas has contributed to improved farm household incomes, perhaps more so than commodity programs. This is important because only about one in three farms participate in commodity programs.

of total direct payments went to these farms, averaging \$20,300 per participating farm.

Farms operated by households in the largest negative total income class reported the highest participation rate and one of the highest average payments among all the income classes.

At the other end of the distribution, about 6 percent of all farm households reported net incomes of \$100,000 or more. About 41 percent of these farms reported receiving direct payments. They received about 17 percent of all payments, for an average of \$36,100 per recipient, the largest of any group.

The distribution of payment shares by income changes only slowly, but the same households are not included in the same groups every year. A household's net farm business income may vary substantially from year to year depending on weather and other factors.

And, the person who receives the payments is not necessarily the ultimate beneficiary of the net income gain. The value of the land equals the current value of the expected future profits, including government payments. When the land is rented or sold, current and expected future government payments are reflected in the price.

The mean income for all U.S. households was about \$34,000 in 1988 and is likely to be above \$35,000 today. About 30 percent of all farm households reported incomes of \$35,000 or more, compared with about 38 percent of all U.S. households. The program participation rate for the farms operated by these households is generally well above the national average. Moreover, they received 47 percent of all direct payments.

## Most Payments Go To Higher-Wealth Farmers

There is not an especially strong correlation between total income and farm net worth for households with a farm net

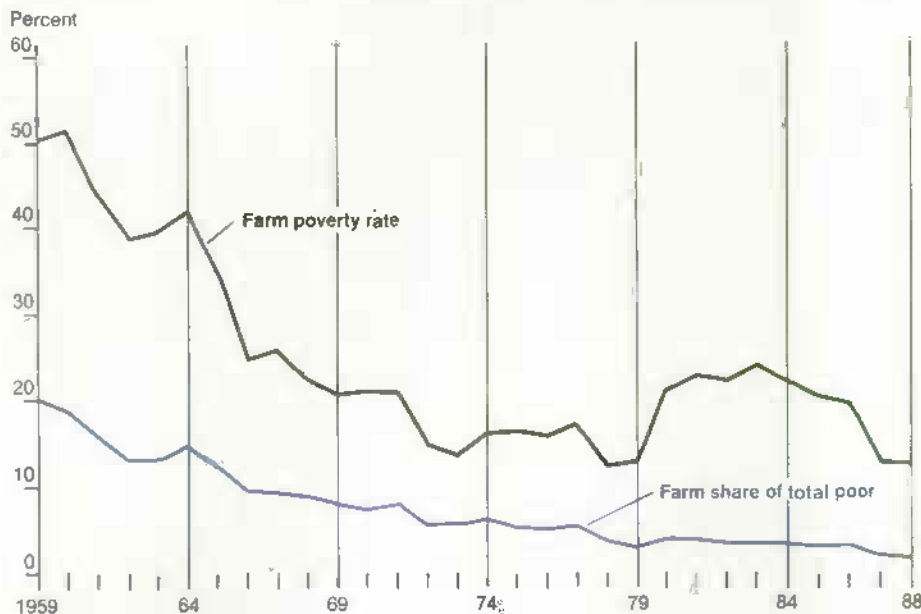
**Average Payments Higher for Negative- and High-Income Farm Households**

Total Income 1/	All farms	Participation rate 2/	Farms reporting payments	Total Direct payments	Payments per reporting farm
		Percent			Dollars
Less than -\$9,999	5.8	59.6	9.7	17.1	25,204
-\$9,999 to 0	6.2	35.6	6.2	5.4	12,552
\$1 to \$4,999	7.0	26.2	5.1	2.8	7,794
\$5,000 to \$9,999	9.4	28.8	7.5	4.4	8,338
\$10,000 to \$14,999	10.1	29.6	8.3	4.2	7,183
\$15,000 to \$24,999	17.9	32.2	16.0	10.1	8,967
\$25,000 to \$34,999	13.7	35.9	13.7	9.1	9,443
\$35,000 to \$49,999	12.9	36.7	13.2	11.7	12,558
\$50,000 to \$74,999	8.4	41.7	9.8	11.9	17,317
\$75,000 to \$99,999	2.8	48.8	3.9	6.7	24,679
\$100,000 and over	5.8	41.0	6.6	16.7	36,117
All farms	100.0	35.9	100.0	100.0	14,257

1/ Net farm business income (gross cash business income less cash expenses and depreciation) plus off-farm income. 2/ Percent of farms in the income class reporting direct payments.

## Agricultural Economy

### Less Than 2 Percent of the Nation's Poor Are on Farms



Source: U.S. Census Bureau.

At the upper end of the wealth distribution, about 13 percent of all farm households had a farm net worth of \$500,000 or more. Over half received direct payments. Thirty-eight percent of all direct payments went to these farm households, averaging over \$28,000 per recipient. Over 85 percent of all direct payments went to farm households with over \$100,000 in farm net worth.

Farm households' net worth tied up in their farms is quite high relative to the average net worth of all U.S. households. The Census Bureau's preliminary estimate of median U.S. household net worth in 1988 was about \$36,000. Less than 10 percent of all U.S. households had a net worth of \$250,000 or more. In the same year, the median farm household net farm worth was about \$167,000 and 31 percent of all farm households had a farm net worth of \$250,000 or more.

These numbers show that substantial farm commodity program payments are made to relatively high income and wealthy farmers. [Tom Carlin and Ken Deavers (202) 786-1527] **AO**

### Wealthy Farm Households Collect Largest Average Payments

Agricultural net worth	All farms	Participation rate	Farms reporting payments	Total direct payments	Payments per reporting farm
		Percent			Dollars
0 or less	2.9	45.0	3.6	3.8	14,937
\$1 to \$4,999	1.2	15.2	0.5	0.4	9,887
\$5,000 to \$9,999	1.0	20.9	0.6	0.3	7,513
\$10,000 to \$24,999	3.8	26.8	2.9	1.6	8,022
\$25,000 to \$49,999	7.4	25.8	5.3	2.4	6,517
\$50,000 to \$99,999	18.2	23.5	11.9	6.4	7,692
\$100,000 to \$249,999	34.7	32.3	31.2	21.0	9,590
\$250,000 to \$499,999	17.8	49.6	24.6	25.7	14,879
\$500,000 or over	13.1	53.3	19.4	38.4	28,238
All farms	100.0	35.9	100.0	100.0	14,257

worth of less than \$250,000. In part, this reflects the influence of off-farm income on households operating small farms. Net worth here measures farm wealth: it is defined as total farm assets minus total farm liabilities.

During the 1980's, much public attention focused on the declining net worth of many farmers, particularly those who were technically insolvent (total debts exceeded total assets). Even being insolvent does not necessarily imply low income: 21 percent of all farm house-

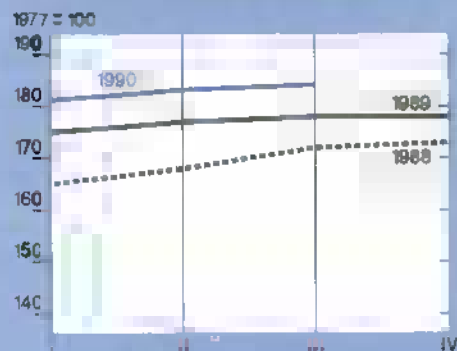
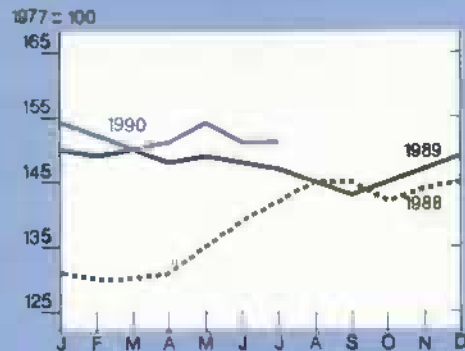
holds with zero or negative net farm worth in 1988 had \$35,000 or more in income from all sources.

About 3 percent of all farm households had zero or negative net farm worth in 1988. Forty-five percent of these households received direct payments. Their payments were 3.8 percent of all direct payments and averaged \$14,900 per recipient. Average payments per recipient ranged between \$6,500 and \$10,000 for households with farm net worth of \$1 to \$249,000. Not until farm net worth reached \$250,000 did payments per recipient average as high as \$14,000.

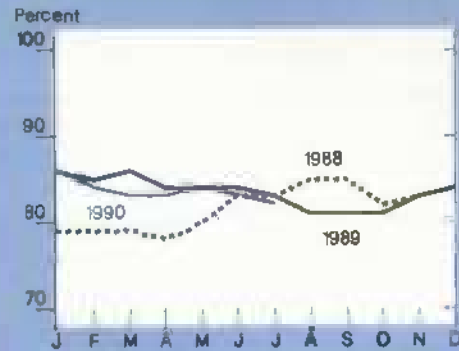
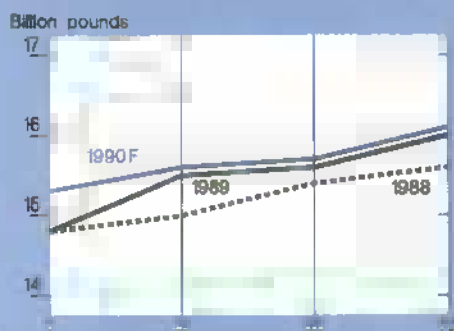
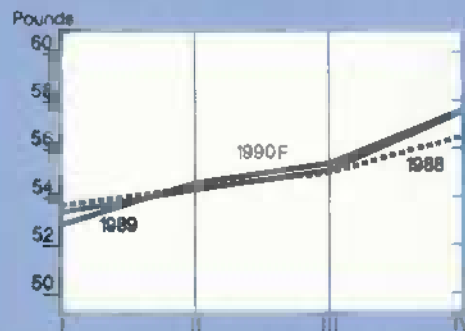
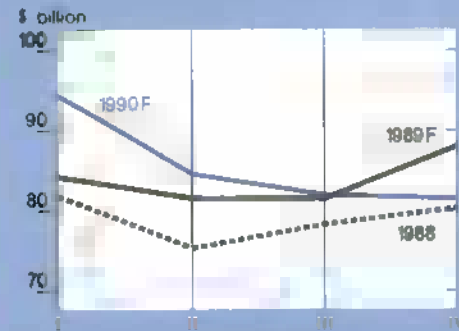
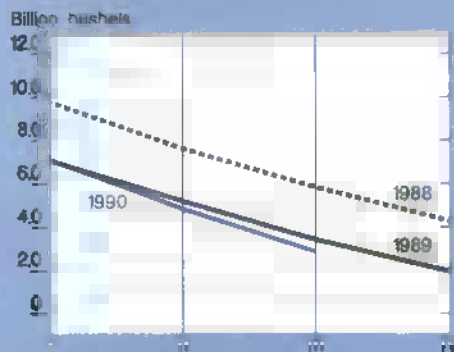
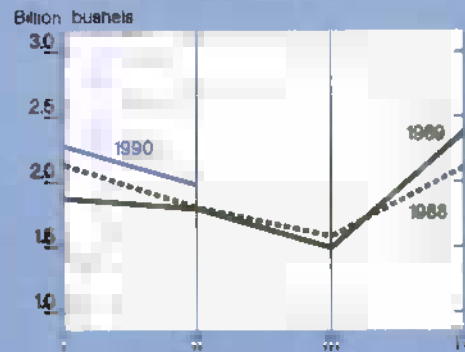
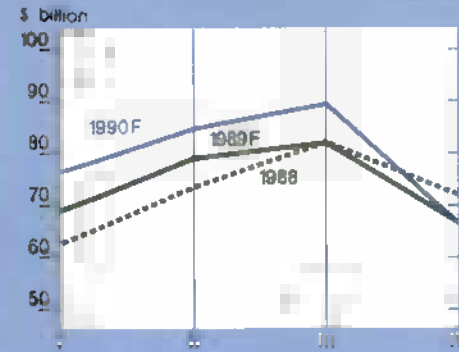
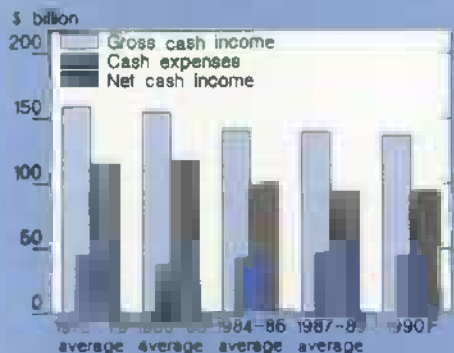
## Prime Indicators

## Agricultural Economy

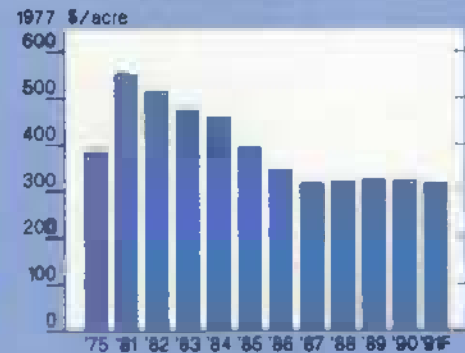
Index of prices paid by farmers

Index of prices received by farmers<sup>1</sup>

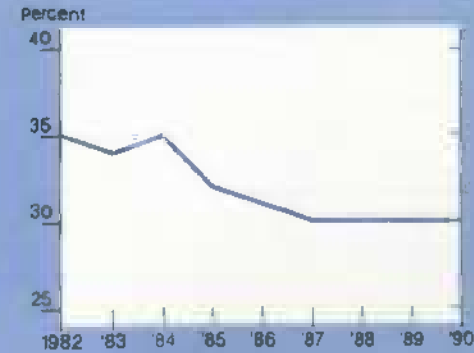
Ratio of prices received/prices paid

Total red meat & poultry production<sup>2</sup>Red meat & poultry consumption, per capita<sup>2,3</sup>Cash receipts from livestock & products<sup>4</sup>Corn beginning stocks<sup>5</sup>Corn disappearance<sup>5</sup>Cash receipts from crops<sup>4</sup>Real cash income<sup>6</sup>

Average real value of farm real estate



Farm value/retail food costs



<sup>1</sup>For all farm products. <sup>2</sup>Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. <sup>3</sup>Retail weight. <sup>4</sup>Seasonally adjusted annual rate. <sup>5</sup>I=Dec.-Feb.; II=Mar.-May; III=June-Aug.; IV=Sept.-Nov. <sup>6</sup>Cash expenses plus net cash income equals gross cash income. F=forecast.

## Agricultural Economy

# Livestock, Dairy, and Poultry Overview

*The midyear cattle inventory posted a meager gain for the second straight year. For pork, retail prices in July were record high and the farm-retail price spread widened. Hog prices have softened and are forecast to drop sharply in the fourth quarter.*

*Broiler production is estimated to grow 7 percent in 1990, down slightly from 1989. Returns are below a year earlier also, reflecting lower broiler prices.*

*Turkey production growth in the third quarter has slowed from a year earlier. But stocks are record high, probably because demand has not absorbed the large increase in production earlier this year. Output growth is expected to continue at a slower pace in the fourth quarter.*

*Large increases in cheese sales caused commercial use of dairy products to advance during the first half of 1990. Wholesale prices for cheese, nonfat dry milk, and other manufactured dairy products rose this spring. Retail dairy prices should remain about flat for the remainder of the year.*

## Cattle Herd Up Slightly

The July cattle inventory report suggested that the cattle herd is expanding, but at a very slow pace. In fact, all that can be confirmed from the report is that herd liquidation has ceased. Beef cow numbers rose only slightly, and dairy cow numbers were unchanged. Periodic drought in many areas during the past 2 years has raised concerns about adequate forage. And high grain prices may make it harder for feeder cattle prices to hold onto recent advances.

Although the inventory has been relatively flat since 1988, cow slaughter in first-half 1990 was 6 percent below a year ago, and producers were retaining 4 percent more beef replacement heifers for possible herd expansion in early July. However, the number of heifers calving and entering the herd in first-half 1990 was 5 percent below a year earlier. So, the 1990 calf crop was estimated in the midyear inventory to be 40 million head, down slightly from 1989.

Feeder cattle numbers outside feedlots in early July were about the same as last year, with calves down 1 percent and yearlings up 3 percent. In spite of dry conditions in a number of areas again this year, calves continue to make good gains on grass and move into the over-500-pound weight category at younger ages.

There were 1 percent more cattle on feed at midyear than a year earlier. Larger numbers of cattle on feed and an increased supply of yearlings for placement probably will keep fed cattle marketings near or above a year ago through early 1991. However, reduced nonfed slaughter will keep total beef production near or slightly below a year earlier through at least first-half 1991.

Choice fed steer prices at Omaha rose from the lower \$70's per cwt in early July to \$77 in late July through mid-August as fed cattle marketings continued to be below expectations. However, increased slaughter and heavier slaughter weights may force prices down to the mid-to-lower \$70's by late summer or early fall, particularly as hog and poultry prices decline.

Prices should remain in the mid-to-lower \$70's through late summer and early fall as larger fed marketings are worked off. Additional pressure will come from seasonally increasing cow and hog slaughter and continued large supplies of broilers. Prices are expected to begin rising to near \$80 by late fall and early winter and perhaps peak near the mid-\$80's in early spring 1991.

Yearling feeder steer prices remained strong through July with less than a \$1 decline from the June peak. Seasonally rising feeder cattle movements beginning in late August will exert some downward price pressure, but expected stronger fed cattle prices next winter probably will hold prices near the upper \$80's through fall and much of 1991.

## Retail Pork Prices Are Record High

Composite retail pork prices averaged \$2.22 a pound in July, up sharply from May's record. High and sometimes volatile wholesale prices have discouraged retailers from specializing pork. Instead, they have focused on poultry and beef.

Farm-to-retail spreads widened to \$1.23 a pound in June, up sharply from May's tight \$1.07 as the farm value dropped modestly. Spreads are expected to remain wide because farm prices have peaked for the year. Farm prices are expected to decline more sharply than normal in the fourth quarter.

U.S. pork imports for the year are expected to reach about 915 million pounds, slightly above a year earlier. Lower production in Canada and much of Eastern Europe, coupled with a reduction in the countervailing duty on imports of Canadian hogs are behind the expected slow growth in imports.

Imports from Denmark are higher than a year ago, but remain below historic levels. Although there are indications of higher breeding herd retention and more farrowings in Denmark, much of this increased supply will not be available for export before the last quarter of this year or the first quarter of 1991.

## Broiler Growth Moderates

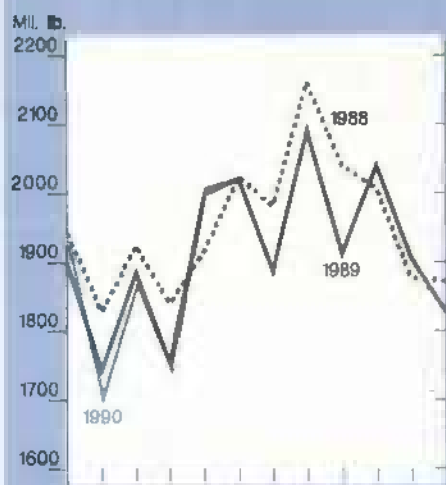
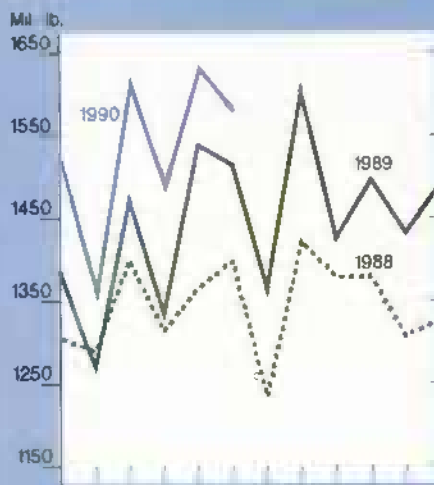
Estimated broiler production for 1990 is 7 percent above a year earlier, with both third- and fourth-quarter output probably up nearly 6 percent. Third-quarter estimates reflect 5- to 6-percent increases in broiler-type chicks hatched from a year earlier. Fourth-quarter growth is based



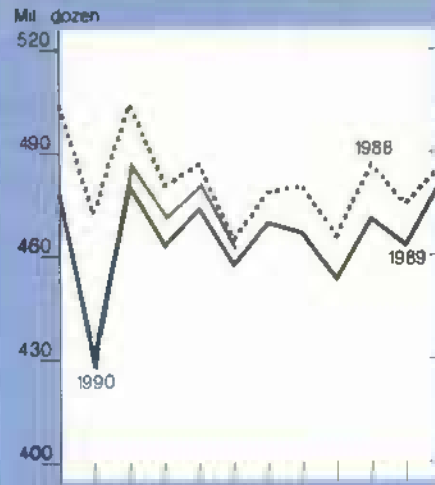
## Livestock and Product Output

## Agricultural Economy

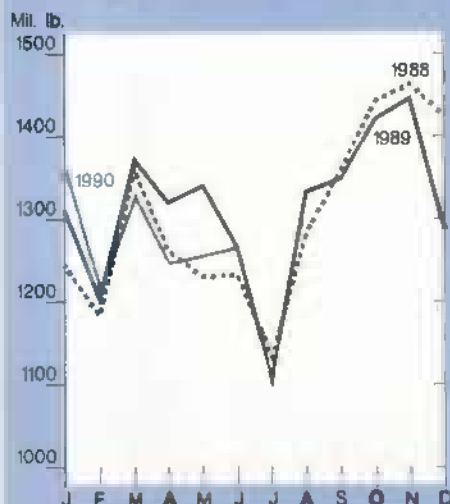
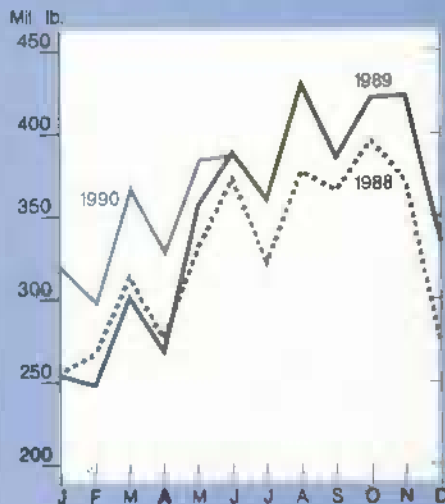
Commercial beef

Broilers<sup>1</sup>

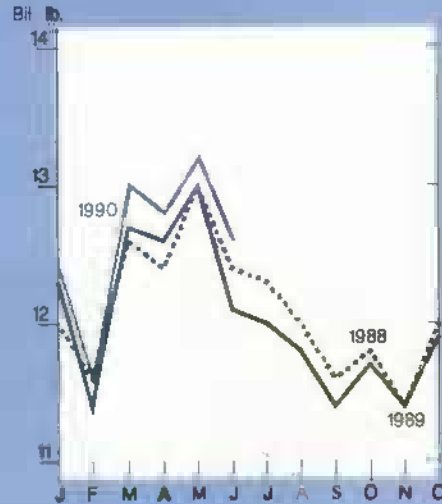
Eggs



Commercial pork

Turkeys<sup>1</sup>

Milk



<sup>1</sup>Federally inspected production, ready-to-cook

on estimates of a larger hatchery supply flock, coupled with expected producer reactions to slightly softer profits in the first half.

Net returns during the first half averaged around 10 cents per pound, down from a year earlier. Average net returns in the third and fourth quarter stand to remain positive, and about the same as a year ago, due to lower broiler prices and feed costs.

The 12-city wholesale broiler price for the second half of 1990 is expected to average slightly lower than a year earlier. For all of 1990, the average probably will be about 6 percent below 1989. Third-quarter prices are forecast to aver-

age 55-59 cents per pound, and drop seasonally in the fourth quarter to 48-54 cents.

Broiler prices strengthened from mid-June through mid-July, but then started to weaken, reflecting greater supplies and a lack of any excitement on the demand side. However, broiler prices are expected to receive a boost from the Labor Day holiday.

Retail prices for whole fryers in 1990 probably will average 88-91 cents per pound, 4 percent below a year earlier. Third-quarter prices are expected to drop almost 6 percent from a year ago and continue declining during the fourth quar-

ter to 82-88 cents, 5 percent below last year.

### Turkey Growth Slows

Turkey production during the third quarter, based on March-May poult placements, is estimated up 5-6 percent from a year earlier. Third-quarter growth was 10 percent in 1989. Poult placements generally have increased moderately in recent months, but in July were 10 percent above a year earlier.

Fourth-quarter output is expected to grow more than 3 percent, but remain substantially less than the 14 percent of a

## Agricultural Economy

year earlier. And turkey production for the year is expected to increase around 9 percent from 1989.

Turkey stocks have hit a record, but the rate of gain may ease as production growth slows. Total turkey stocks on July 1 increased 6 percent from a year earlier. Stocks of turkey parts set another record, 172 million pounds, 24 percent above a year earlier. Cut-up and further processing use have not yet absorbed the large increase in production earlier this year.

Slower output growth in the second half would reduce the downward pressure on prices caused by the large stocks. Eastern region wholesale hen prices stand to increase to 62-66 cents per pound during the third quarter, compared with about 62 cents last year.

Fourth-quarter prices are expected to be 62-68 cents per pound. Except for the third quarter, prices probably will remain below a year earlier, and average in the low 60's for the year. Retail prices for frozen whole turkeys are steady, with prices expected to average around \$1 per pound for the year, about the same as in 1989.

### Egg Prices Weaken

Third-quarter table egg production will be roughly 1 percent above a year earlier, 1.2 billion dozen, reflecting a younger and slightly larger flock. For the year, table egg production will be about the same as a year ago.

The table egg-type flock size on July 1, at 225 million layers, was down 1 percent from the previous month and 2 percent below a year earlier. Egg-type chicks hatched, while up 7 percent for the first half of 1990, fell slightly in May and June from a year ago, indicating a slowdown in flock expansion.

The flock is still expected to be larger for the remainder of 1990 than a year ago. Coupled with an increased rate of lay, this will boost table egg output by 1 percent in the second half.

The New York wholesale price for grade A, large eggs is estimated to average 73-76 cents per dozen for 1990, lower than last year's record 82 cents. Third and fourth quarter prices are forecast lower, 66-70 cents and 64-70 cents, reflecting increased supplies.

Retail prices in the second half are expected to drop into the high 80's, down from over \$1 a year earlier. For the year, prices probably will average in the mid-90's, down from \$1 in 1989. Per capita egg consumption for the year is estimated to be 234 eggs, about 1 less than 1989.

### Enormous Boost In Cheese Sales

Led by large increases in cheese sales, commercial use of dairy products posted sharp advances during the first half of 1990. First-quarter use was up almost 3 percent from a year earlier and second quarter use probably was up 8 percent.

Disappearance of nonfat dry milk was fairly heavy, even though commercial exports have been less than in 1989. Much lower butter prices helped butter use recover from last year's lows.

Large disappearance of cheese also raised spring wholesale prices of cheese, nonfat dry milk, and other manufactured dairy products. Counterseasonal price rises occurred even though milk output grew 2 percent from a year ago. These increases were reflected in record farm milk prices for June.

Retail dairy prices rose more than 10 percent during April-June, exceeding the jump in farm prices. Retail prices should remain near recent levels during the rest of 1990. For 1990, commercial use of all dairy products is projected to rise 3 percent from a year ago.

**For further information contact:** Ken Nelson, coordinator; Ron Gustafson, cattle; Leland Southard, hogs; Lee Christensen, Agnes Perez, and Larry Witucki, poultry; Sara Short, dairy. All are at (202) 786-1285. **AO**

## Field Crops Overview

*A sharp rebound in this year's U.S. wheat crop and a record foreign crop are pushing global output above use. Prices are down and stocks are accumulating.*

*World coarse grain output in 1990/91 is still forecast to trail use, but prospects improved as the summer progressed. Prices have eased somewhat, although they are still above last year. Forecast output gains in the USSR account for the recent changes.*

*In the U.S., the winter wheat crop is now in the bin, and spring wheat harvesting is underway. Corn harvesting also has begun, although the late-planted crop is still vulnerable to frost damage in the Corn Belt.*

### A Bumper Wheat Crop Is Likely

Favorable wheat growing conditions in the Northern Hemisphere are contributing to burgeoning world wheat supplies. With generally mild temperatures and timely rainfall in North America, the U.S. spring wheat crop is forecast to be 651 million bushels, up about 12 percent from a year ago, despite a drop in planted area. Hard red spring wheat production is forecast to be a record 512 million bushels. Canada's area increased and, with higher yields, production is expected to be the second largest ever.

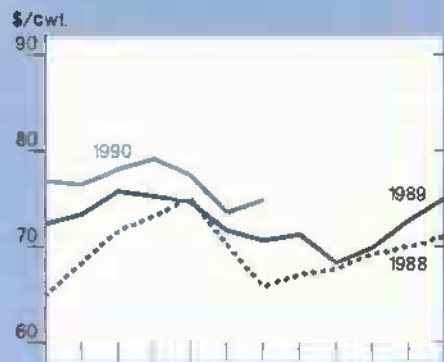
U.S. winter wheat output is estimated to have risen 41 percent from a year earlier. With increased supplies of wheat abroad as well, U.S. exports have been sluggish, despite lower prices. However, feed use of wheat is increasing because wheat prices are quite competitive with feed grains in many areas.

The prospects for record foreign wheat production in 1990/91 are improving. USSR wheat output is forecast to be the third highest ever—104 million tons—up

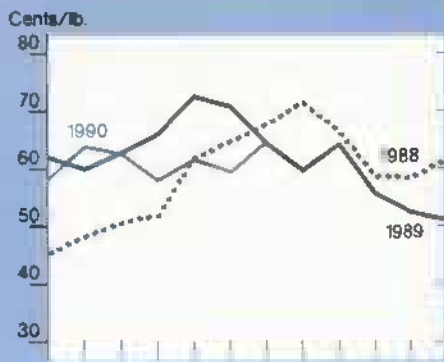
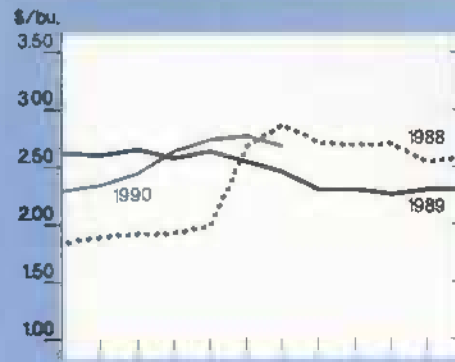
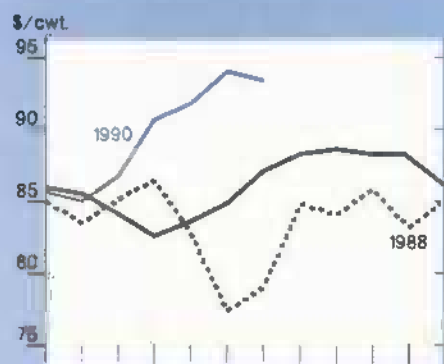
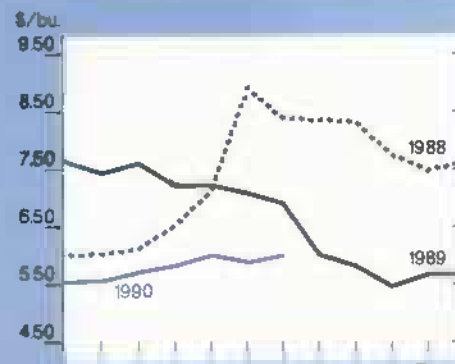
## Commodity Market Prices

## Agricultural Economy

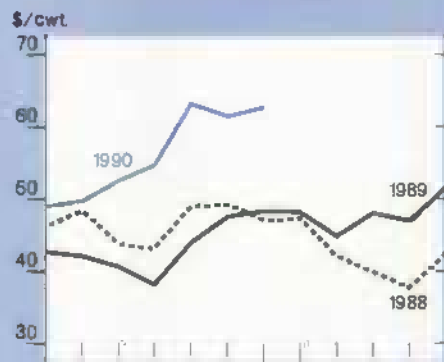
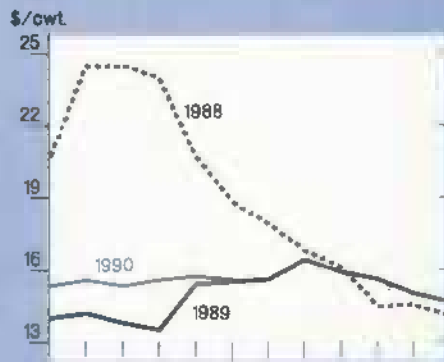
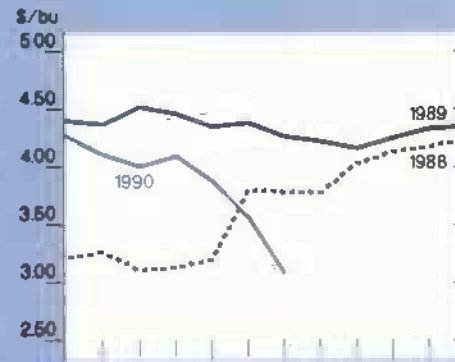
Choice steers, Omaha



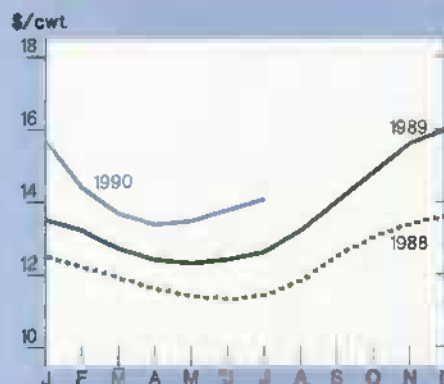
Broilers, 12-city average

Corn, Chicago<sup>3</sup>Feeder cattle, Kansas City<sup>1</sup>Eggs, New York<sup>2</sup>Soybeans, Chicago<sup>4</sup>

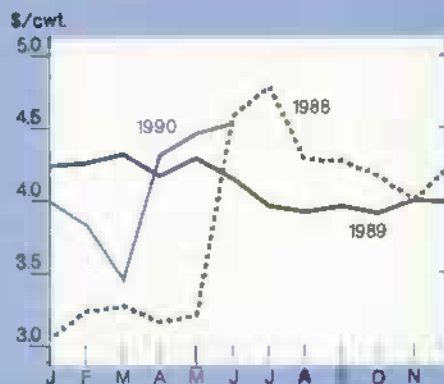
Barrows and gilts, 7 markets

Milled rice, SW Louisiana<sup>5</sup>Wheat, Kansas City<sup>6</sup>

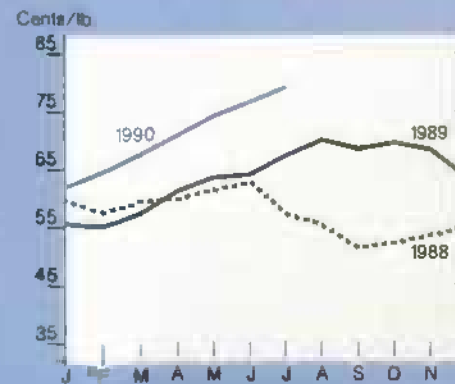
All milk



Sorghum, Kansas City



Cotton, average spot market



<sup>1</sup>600-700 lbs., medium no. 2    <sup>2</sup>Grade A large    <sup>3</sup>No. 2 yellow    <sup>4</sup>No. 1 yellow    <sup>5</sup>US. No. 2, long-grain    <sup>6</sup>No. 1 HRW.

## Agricultural Economy

### Record High World Wheat Production

	1988/89	1989/90	1990/91
<i>Million metric tons</i>			
<b>WORLD</b>			
Wheat			
Production	501	537	584
Use	531	538	566
Exports	97	97	98
Ending stocks	117	116	134
Corn			
Production	400	460	470
Use	459	476	475
Exports	64	73	65
Ending stocks	87	71	66
Soybeans			
Production	95	106	107
Use	98	103	108
Exports	23	26	26
Ending stocks	18	19	18
<b>UNITED STATES</b>			
Wheat			
Production	49	55	74
Use	27	27	34
Exports	38	34	32
Ending stocks	19	15	23
Corn			
Production	125	191	199
Use	133	147	150
Exports	51	60	53
Ending stocks	49	34	31
Soybeans			
Production	42	52	50
Use	31	33	34
Exports	14	17	17
Ending stocks	5	7	6

Notes: Exports of wheat and corn do not include intra-EC trade shipments. Data are for marketing years. The wheat marketing year is July/June, and the soybean and corn marketing years are October/September.

13 percent from a year earlier. And recent reports from China indicate record-high output there.

Large prospective crops in the Soviet Union and China are slowing their purchases on international markets. This weaker demand, together with the embargo on Iraq, will keep global exports from growing much. Exports in 1990/91 are now forecast to be 97.8 million tons, below earlier expectations.

With large competitor export supplies forecast, the U.S. appears to be absorbing much of the reduction. U.S. exports are projected to be 32 million tons for the year, down about 2 million from a year earlier.

### Corn Prices Are Easing

Planting delays and cooler weather have held back the development of the corn crop throughout the summer. Nonetheless, growing conditions improved as the season progressed. Spotty, but sometimes very heavy rainfall in the western Corn Belt boosted soil moisture conditions and generally proved beneficial to the crops.

Early-season concerns about production have eased. By late July, some corn harvesting had already begun in Texas and Georgia. Cool temperatures have generally aided the crop in Texas, but rains in

some parts of Texas and Georgia slowed the harvest a bit.

Crop development has been slow in most of the major corn-producing states, including Illinois, Indiana, Iowa, and Missouri. Although this posed no immediate threat, the planting and developmental delays mean that pollination took place later in August, when temperatures across much of the Corn Belt normally are at their peak.

However, cool weather through mid-August substantially lowered the risks of pollination problems this year. Also, the planting delays mean that an early frost may prematurely halt kernel development and thereby reduce the crop's quality.

Crop conditions this year have been slightly better than a year ago. As of August 5, 80 percent of the crop was rated fair to good. Sixteen percent was rated excellent. Pest damage appeared minimal.

Reflecting the easing supply situation, U.S. corn prices dropped from \$2.77 a bushel in June to \$2.55 in early August. The season-average price is forecast to be \$2.35 to \$2.75, a bit lower than last month's forecast.

Projected 1990/91 world coarse grain production is now 2 percent above 1989/90. Recent gains mainly reflect excellent prospects in the Soviet Union. As a result, Soviet imports are forecast down substantially, and will pull down global trade.

### Weather Limits Rice Output Gains

According to the USDA Acreage report, U.S. rice producers probably planted and will harvest over 2.8 million acres in 1990. Both are up about 5 percent from the 1989 crop. Medium grain plantings grew most rapidly, increasing 20 percent, compared with only 2 percent for long grain rice. The share of area planted to long grain varieties, however, slipped slightly, even though it still accounts for nearly three-quarters of the total.



Rain and wet field conditions this spring delayed planting in the Delta. Nonetheless, production is forecast up a modest 2.3 percent this year and is expected to reach 158 million cwt. All of the increase is medium grain rice, which is expected to grow 16 percent from last year.

Domestic use probably will grow 2.2 million cwt, but exports will slip by 3 million. The embargo on Iraq is expected to help lower U.S. exports in 1990/91 to 74 million cwt.

Ending stocks for the year are projected to reach almost 26 million cwt, up over 2 million from beginning stocks. Stiff competition from Thailand and Vietnam and weakening international import demand will push down global prices from a year ago.

## Soybeans Set Pods

Despite generally favorable growing conditions early in the season, development of the U.S. crop got a late start in many areas, and lags well behind historical averages. Dry weather in parts of the Southeast and Delta continues to hamper development. Although rains in late July and early August improved conditions, much of the crop remains fair to poor.

The soybean crop entered the pod-setting stage needing additional rain. Although soil moisture reserves have improved, timely rainfall in August and September is needed to maintain yields.

Currently, production is forecast to be 1.84 billion bushels, reflecting a 5-percent decline in harvested acreage and a slightly better average yield. The forecast represents a 4.7-percent decline from last year's production. But the drop will be sharper if early hard frosts hit major growing areas.

Despite lower production forecast for 1990/91, soybean supplies will be only slightly smaller this year because of an expected 265-million-bushel stock carryover. The fractionally tighter supply is expected to encounter continued strength in domestic demand, but a slightly weaker export market.

Ending stocks are forecast to be 225 million bushels, tight by historic standards. Season-average prices should range from \$5.50 to \$7.00 per bushel, compared with \$5.70 last season.

Another record South American crop is expected to push world soybean production to 107 million tons in 1990/91, just above last year's excellent crop. Global consumption and trade of both beans and meal are also expanding.

U.S. soybean exports in 1990/91 are continuing at 1989/90's relatively strong pace, now forecast to be 16.7 million tons. U.S. soybean exports also are projected up. Delayed marketing of the Brazilian and Argentine crops, coupled with unusually brisk demand from the EC for both beans and meal, are primarily responsible for the U.S. gain.

## World Cotton Output To Soar

The early U.S. outlook for the 1990/91 cotton season (August-July) is characterized by sharply higher production, relatively strong use, and continuing low stocks. Cotton production this season is projected to be 14.9 million bales, 22 percent above last season's crop.

Despite the larger outturn this season, stocks are expected to remain tight because of strong demand. Domestic mills are forecast to consume about 8 million bales in 1990/91, down 7 percent from last season, but historically high. Exports are expected to drop to 7 million bales, down 10 percent from a year ago.

Still, use will about match production for the year, so ending stocks will remain low at 2.9 million bales.

Much more foreign cotton production also is expected in 1990/91 in response to current tight stocks and high prices. At 71.7 million bales, foreign production is forecast to be the second highest ever.

Nevertheless, strong consumption growth among foreign suppliers is likely to offset the price-induced reduction in importers' use, pushing up total consumption to a record. With sluggish

imports, world trade is expected to stagnate. The U.S. export market share is expected to drop sharply from nearly 33 percent to about 29 percent, close to its historic average. [Jim Cole (202) 786-1840 and Carolyn Whitton (202) 786-1824]

For further information, contact: Sara Schwartz, world food grains; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Pete Riley, world feed grains; Larry Van Meir and Jim Cole, domestic feed grains; Robert Cummings, world oilseeds; Roger Hoskin, domestic oilseeds; Carolyn Whitton, world cotton; Scott Sanford, domestic cotton; Jim Schaub, domestic peanuts. World information (202) 786-1824; domestic (202) 786-1840. **AO**

## Specialty Crops Overview

*Processed catfish sales volume, which rose an average of 22 percent a year between 1979 and 1989, is expected to rise again in 1990. And despite production and grower inventory increases, prices remain firm.*

*Dry bean acreage and output in 1990/91 are up and producers probably will face prices below a year earlier. Strong export demand and higher prices during the last 2 years are behind much of the acreage increase. Sweetpotato acreage and output also are expected up in 1990, due mostly to lower prices for alternative crops.*

*The 1990/91 U.S. sugarcane crop is expected to be down, largely due to a 46-percent cut in Louisiana's acreage caused by last December's unusually cold weather. But sugar beet harvested acreage continues to expand.*

*While U.S. imports of fresh cut flowers fell 5 percent in 1989, the value rose because of an increased share of higher*

## Agricultural Economy

*valued products. The decline in volume was primarily due to smaller exports from Colombia.*

### **Demand for Catfish Still Growing**

The U.S. farm-raised catfish industry has matured and now is a major supplier to the national seafood market. Processed catfish sales grew from \$36 million in 1979 to \$372 million in 1989.

Catfish ranked only behind pollock, salmon, and cod in domestic landings of finfish species during 1989. Today, farm-raised catfish are found in retail outlets across the country.

Catfish sales are increasing this year and are expected to continue growing in 1991. Sales to processors during the first half of 1990 were 12 percent ahead of a year earlier, and hatchery and grower inventories were up 17 percent (count basis).

Growers' inventories of food-sized fish on July 1 were 28 percent (weight basis) above a year earlier. Holdings of large fish (over 3 pounds) were down, while stocks of small (3/4 to 1-1/2 pound) and medium (1-1/2 to 3 pounds) fish were up. Processors prefer fish weighing between 3/4 and 3 pounds. Catfish over 3 pounds yield filets larger than desired by many food service companies, the prime market.

Most catfish are grown in the Delta states, which accounted for 90 percent of the production area in 1989. But, farm-raised catfish production now is growing in other states. New processing plants are promoting production in Florida, Texas, and the Carolinas.

As of early July, the surface area of ponds for catfish production rose 139 percent from a year earlier in the Carolinas, 83 percent in Texas, and 53 percent in Florida. But these states account for only about 4 percent of pond area. Additional pond area probably will be constructed, though, because processing plants that can handle larger volumes have been built there over the last several years.

Despite rising output, prices remain firm, reflecting the growing demand for catfish. Processors paid an average of 79 cents per pound in June, up from 75 cents a year earlier. Growth in the domestic catfish industry caused catfish imports to fall 60 percent from 1979 to 7 million pounds in 1989.

### **Dry Bean Output Up**

Dry bean producers probably will see relatively low prices in the 1990/91 marketing year following 1990's expected production increases. Prices during the past 2 years averaged above the long-term trend due to drought-induced production shortfalls and strong export demand in 1989.

Production prospects as of early August were for a record 33.5-million-cwt crop, up 38 percent from last year. Estimated acreage for harvest jumped 26 percent from a year earlier. Without substantial export gains, the 1990/91 season-average price stands to fall below \$20 per cwt, compared with an estimated \$28 for 1989/90.

Production is forecast 168 percent higher in North Dakota. Relatively low prices for alternative crops and prospects for continuing strong export demand may have contributed to the acreage increase. Drought cut North Dakota bean yields in half during the past two seasons. North Dakota grows mostly pinto and navy beans.

Prospects are for a 17-percent larger harvest in Michigan, where navy bean production is centered. Michigan accounted for 72 percent of 1989's navy bean production.

Sweetpotato harvested area in 1990 is forecast to be 7 percent above a year earlier and will boost production. The biggest increases will be in North Carolina and Louisiana, the two major producing states. This is the largest acreage since 1985 and reflects strong grower prices during the past 2 years and lower prices for alternative crops.

Grower prices probably will fall from 1989/90 if average yields match those for 1989. Crop conditions in Louisiana and North Carolina were reported mostly fair to good as of late July.

### **Sugar Area Drops, Tobacco Rises**

Total sugar crop production for 1990/91 is estimated to be 53 million tons of beets and cane, 3 percent below last season. Sugarcane production for sugar and seed is expected to be 4.5 million tons lower than a year earlier, largely reflecting a 46-percent contraction in sugarcane acreage in Louisiana.

Louisiana's sugarcane industry was devastated by unusually cold weather last December that killed many underground roots (ratoons), making it uneconomical to maintain much of the acreage for harvest in 1990. Thin stands on remaining acreage will further lower 1990/91 production.

In Florida, sugarcane acreage is up fractionally from 1989 to a record 422,000 acres, representing 60 percent of the U.S. total in an average year.

Unlike sugarcane, sugarbeet tonnage is expected to rebound from last season's weather-plagued crop, reflecting improved yields and a 6-percent growth in acreage. Production in the two leading states, Minnesota and North Dakota, is forecast up 13 percent from a year earlier. Minnesota and North Dakota normally produce about one-third of total beet tonnage.

Tobacco production is estimated up 11.5 percent from last year, reflecting more harvested area and higher yields. Prices are expected to be a little higher than last season because of tight supplies and higher price supports.

Flue-cured production is forecast to be 872 million pounds, 8 percent above a year ago. Acreage rose 6.5 percent and yields are up 1 percent from last season. Flue-cured tobacco accounts for about 57 percent of all U.S. tobacco production.

## Agricultural Economy

Burley production is forecast to be 567 million pounds, up 17 percent from 1989. The change also reflects larger acreage and higher yields.

### Flower Imports Rebound

U.S. imports of fresh cut flowers fell 5 percent in 1989 to 2.8 billion stems, reversing a long-term trend. Despite the drop in quantity, the total value of imports rose.

Import volume this year through July was running ahead of a year earlier. Roses, orchids, and tulips are posting especially strong gains.

The decline in 1989's volume was attributed primarily to reduced shipments of standard carnations and pompon chrysanthemums from Colombia, partly because of plant health problems. In addition, the U.S. government was investigating charges during 1989 that Colombian growers were dumping standard carnations and pompon chrysanthemums onto the U.S. market.

Foreign competition in the cut flower market appears to be rising. Despite the drop in exports to the U.S., Colombia's production and total exports continued to expand in 1989. And, its exports to the U.S. are expected to continue growing in the future. Colombia's shipments of standard carnations and pompon chrysanthemums to the U.S. during the first 7 months of 1990 rose 19 and 21 percent over the comparable period the year before.

Colombia is by far the largest shipper of fresh cut flowers to the U.S. Almost 60 percent of the value of U.S. imports in 1989 originated there. The Netherlands accounts for 20 percent. The Netherlands, Costa Rica, Mexico, and Ecuador all increased exports to the U.S. in 1989. [Glen Zepp (202) 786-1883.]

For further information, contact: Kate Buckley, fruit; Gary Lucier, vegetables; Peter Buzzanell, sweeteners; Verner Grise, tobacco; Doyle Johnson, tree nuts and greenhouse/nursery; David Harvey, aquaculture. All are at (202) 786-1883. **AO**

## Commodity Spotlight

## Congress Plans For "Industrial" Crops

Developing new industrial uses for agricultural commodities has captured the attention of many, including Congress. Both the House and Senate passed bills on the topic during the 100th Congress, but adjourned before enacting legislation. However, several bills have been introduced during the current, 101st Congress. In addition, USDA established a working group last November to address the issue and help develop national policies.

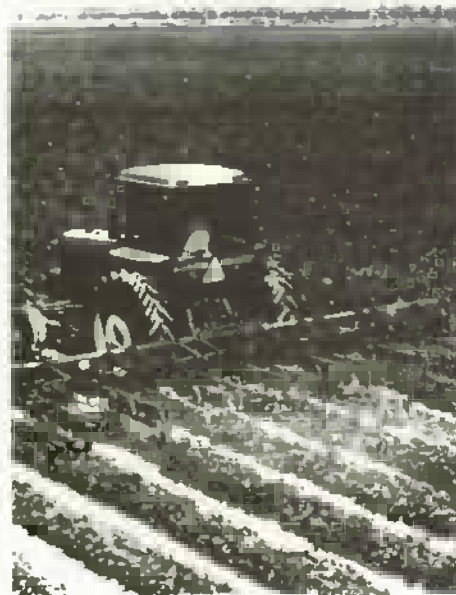
Furthermore, the Administration's proposals for the 1990 farm bill included a statement on industrial uses of agricultural materials and their commercialization. And legislation on new industrial uses of agricultural commodities has been incorporated into the farm bills passed by the House and Senate.

Both bills in Congress define commercialization as activities related to developing prototype products or manufacturing plants, applying new technology to industrial production, and creating new markets for industrial uses of agricultural products and processes.

Government support is considered necessary because of the high risks and initial costs of commercializing new products and processes. In addition, government assistance would help ensure that the results of publicly funded research are more fully utilized.

### New Uses For All Types of Crops

Many common crops can be used for industrial purposes. For example, soybean oil is used to make printer's inks. Soy-based inks have several beneficial attributes including less ruboff, sharper and brighter colors, and easier press



cleanup compared with traditional petroleum inks. Colored soy inks are widely used by the printing industry because of their superior quality. Research is under way to make black soy ink more competitive with its petroleum counterparts.

In addition, several alternative crops offer potential industrial uses. Kenaf is being developed as a source of paper pulp. Guayule, a shrub native to the southwest U.S., also is being developed as a domestic source of rubber.

And new oilseeds, such as lesquerella, crambe, and meadowfoam, yield fatty acids that can be used in a wide range of industrial applications—lubricants, plastics, nylons, paints and protective coatings, cosmetics, and pharmaceuticals. However, these new crops (and their products) have various agronomic, processing, and marketing barriers to overcome before they are produced on a commercial scale.

Supporters say that expanding industrial uses for agricultural commodities will:

- diversify crop production,
- help maintain the economic well-being of the farm sector,
- reduce the trade deficit.



## Commodity Spotlight

- help the U.S. compete with foreign suppliers,
- promote jobs and economic growth in rural areas, and
- conserve nonrenewable resources.

### Bills Give USDA Top Role

Both bills would create entities within USDA to support commercialization of industrial uses of agricultural commodities. The Senate bill (S. 2830) would establish the Alternative Agricultural Research and Commercialization Corporation.

The Corporation's board of directors would consist of nine members: the Assistant Secretary for Science and Education, the Under Secretary for Small Community and Rural Development, and seven people appointed from the agricultural, scientific, financial, and managerial communities, with at least three from the private sector.

The House bill (H.R. 3950) would set up the National Institute for Alternative Agricultural Products. The Institute's board would have 12 voting members: three from scientific disciplines, three agricultural producers or processors, three from the private sector who are involved in commercializing new products from agricultural commodities, and three from private industry who have a history of successful commercialization.

Both bills also would establish regional centers to help support research, development, and commercialization. The centers would be at host institutions in different states, reflecting various climatic and rural economic conditions. Institutions wanting to house a regional center would apply to the board.

### Research Support Is Major Function

A major function of either the Corporation or the Institute would be to move

### House and Senate Farm Bills Contain Provisions To Aid New Industrial Products

	Senate S. 2830	House H.R. 3950
Entity	Alternative Agricultural Research and Commercialization Corporation	National Institute for Alternative Agricultural Products
Board	9 members who serve 5-year terms; must meet at least 4 times annually	12 voting members who serve 4-year terms plus nonvoting ex officio members; must meet at least 3 times annually
Regional centers	Four to nine	Two to five
Advisory council	One for each regional center	One
Research and development assistance	Grants, cooperative agreements, and contracts; 3-year minimum	Grants, cooperative agreements, and contracts; 3-year limit
Commercialization assistance	Loans, interest subsidy payments to lenders, venture capital, repayable grants matched by private or state or local public funds, and umbrella bonding	Loans, interest subsidy payments to lenders, venture capital, and repayable grants matched by private or local public funds
Authorized appropriations	Such amounts as may be necessary for fiscal years 1991-2000, but at least \$10 million for 1991, \$20 million for 1992, \$30 million for 1993, \$50 million for 1994, and \$75 million for each of the remaining 6 years.	Such amounts as may be necessary for fiscal years 1991-95

research results—nylon made from vegetable oil, for example—toward commercial use by making grants and signing cooperative agreements and contracts with eligible participants. Under the House bill, educational institutions, other public and private research organizations, federal agencies, and individuals would be eligible.

Those involved with commercialization have increasingly come to recognize the gap between public research and private development and production of agricul-

turally derived products. The projects that would be funded by these grants, agreements, and contracts are expected to foster public-private partnerships and expedite research to the point where industry will commit to commercial production.

Both bills list similar selection criteria for research and development projects, including:

- prospect of developing technologies that use or modify existing agricultural commodities to economically produce new industrial products;



## Commodity Spotlight

- potential market size, likely time period to bring the product to general use, and availability of the raw or processed agricultural commodity;
- potential for job creation in economically distressed rural areas;
- potential to reduce costs of federal farm assistance programs;
- lack of adequate funding from other sources; and
- ability to manufacture the product near where the commodity is raised.

Peer review committees would evaluate research proposals and report the results to the Corporation or Institute's board of directors. Under the House bill, the board would then review the proposals and decide on funding. The Secretary could veto a decision, but would have to tell the board why. Under the Senate bill, the Secretary would select projects to fund based on the board's recommendations.

### **Commercialization Is A Key Goal**

A second major function of either the Institute or the Corporation would be to help educational institutions, nonprofit corporations, cooperatives (S. 2830 only) and businesses (S. 2830 specifies small businesses) commercialize new industrial products made from agricultural commodities. This assistance would be provided through loans, venture capital, and repayable grants to the organizations and interest-subsidy payments to lenders.

Organizations applying for assistance would have to document that:

- their proposal is scientifically sound, technologically feasible, and marketable;
- adequate private sector funding is not available, but they have the ability to obtain matching funds;
- their own resources, including time and money, have been invested in the project;
- the product or process has broad applications and can be commercially viable;
- their proposal has broad participation by the financial, business, scientific, and farm communities, as well as state and local governments and educational institutions; and
- the project would generate new jobs in rural communities.

S. 2830 would funnel applications for commercialization assistance through the regional centers to the board. Each regional center would have an advisory council that, along with the regional director, would review the applications and submit recommendations to the board for a final decision.

Under H.R. 3950, applications could be submitted to the Institute or a regional center. A single advisory council would review them and make recommendations to the board, which would make the decisions.

The council(s) would have the same functions in both bills—to ensure that appropriate projects are funded and that regional and national policies are consistent. In addition, the Secretary could veto any decision on assistance, but would have to tell the board why.

The Secretary concurs with the need to link research and commercial production. However, he has expressed concern over some of the specifics in the House and Senate bills, primarily: the composition and role of the board, the need for regional centers, his authority under the provisions, and the desirability of a new entity within USDA to administer the program. [Lewrene Glaser (202) 786-1888/ AO]

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## World Agriculture and Trade

## Iraq Faces Embargo

The U.S. ban on trade with Iraq and the U.N.-sponsored general trade embargo will significantly cut Iraq's export revenues and food supplies. The U.N. embargo includes agricultural goods, and was enacted by the Security Council on August 6 in response to Iraq's invasion of Kuwait. Iraq depends heavily on food imports and its citizens will see very tight food markets in coming months.

The main economic pressures will arise because of the embargo on Iraq's oil shipments; 96 percent of Iraq's export revenues come from oil. Iraq, already cash-short and now also denied U.S. agricultural credit, will pay a premium for a reduced volume of imported food.

Iraq is the most heavily indebted country in the Middle East, owing an estimated \$70-90 billion, of which about half is owed to Western lenders. Much of the remainder is owed to Saudi Arabia, the United Arab Emirates, and Kuwait.

To reflect the effect of these economic sanctions, on August 9 USDA adjusted downward the forecasts of global and U.S. trade with Iraq. Food imports provide more than 75 percent of Iraq's caloric needs. Before the invasion, Iraqi food imports in calendar 1990 likely would have approached \$3 billion.

The U.S. had been a major Iraqi supplier, accounting for about a quarter of \$2.9 billion in agricultural imports in 1989 and a third of \$2.5 billion in 1988. Australia, Canada, the EC, and Turkey also have been important suppliers.

The U.S. had allocated substantial amounts of GSM credits to Iraq to buy U.S. agricultural products. Iraq used almost all of the \$500 million in GSM-102 guarantees allocated to it during fiscal 1990 prior to its invasion of Kuwait. Iraq still owes commercial banks about



\$1.9 billion for past guaranteed loans, and was the second largest user of the USDA guarantee program.

Most grain consumed by Iraq's population and livestock is imported. The early August forecast of 1990/91 grain imports was 2.85 million tons, down from 4.6 million prior to the U.N. sanctions. Before the revision, grain imports were expected to represent about 75 percent of consumption. Moreover, the situation in the Middle East is volatile and conditions

may have changed since the early August forecast was made.

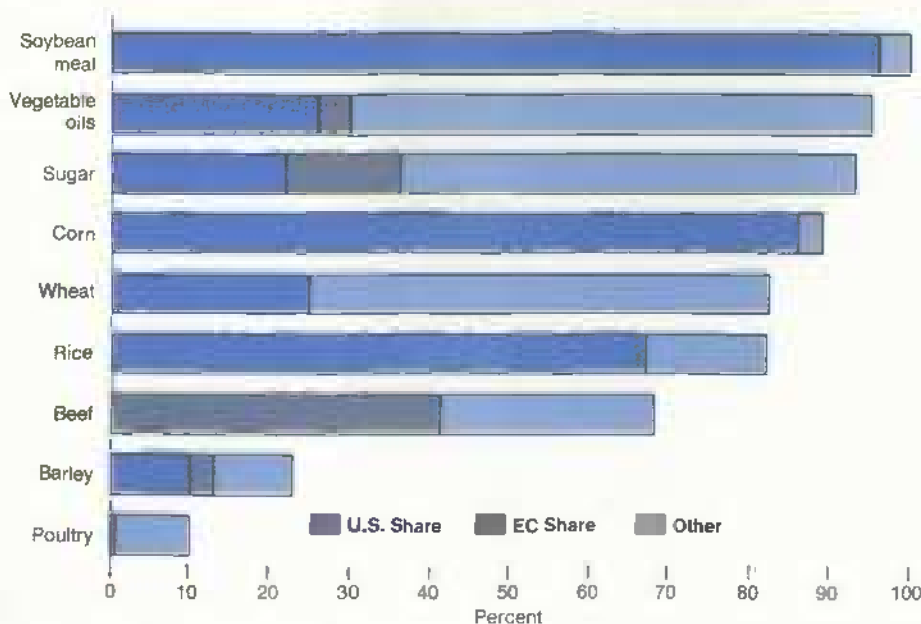
### Wheat Imports To Drop 57 Percent

Reflecting the trade sanctions, wheat imports are now forecast to be 1.5 million tons in 1990/91, down 2 million from a year earlier. In the past, much of the wheat, primarily hard red winter varieties, came from the U.S. In 1989/90, the U.S. supplied 30 percent of Iraq's wheat imports. Australia provided 49 percent, and the rest came from Canada.

Securing adequate wheat imports may prove extremely difficult because Iraq faces severe financial constraints and major exporters are cooperating with the embargo. As of early August, Iraq had already contracted for 300,000 tons of Australian wheat, but most of it remains unshipped. Iraq had purchased 200,000 tons of wheat from Saudi Arabia in July and smaller quantities from other exporters.

Coarse grain imports, now forecast to be 850,000 tons, would represent approximately 40 percent of coarse grain consumption in 1990/91. Barley is expected to comprise about three-fifths of these

Iraq Depends Heavily on Imported Food

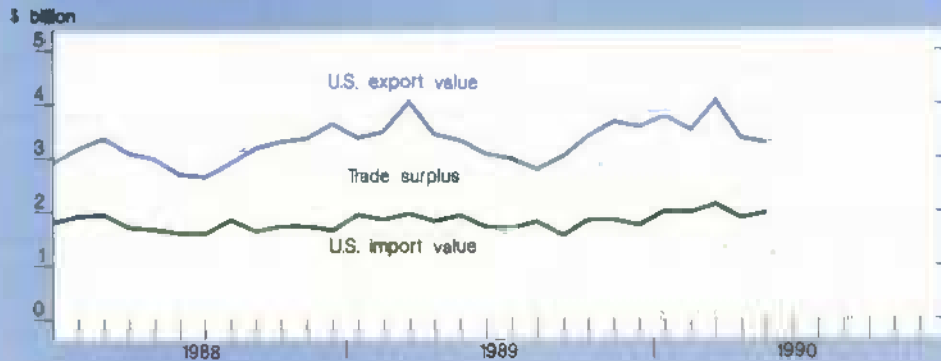


Average share of consumption provided by imports, 1987-89.

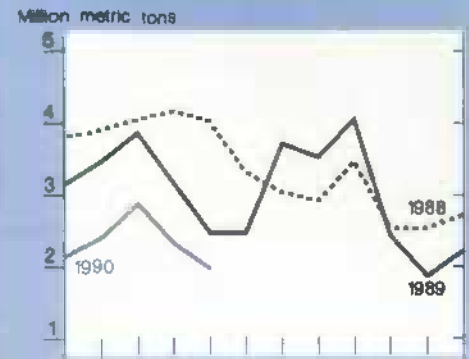
# U.S. Trade Indicators

## World Agriculture and Trade

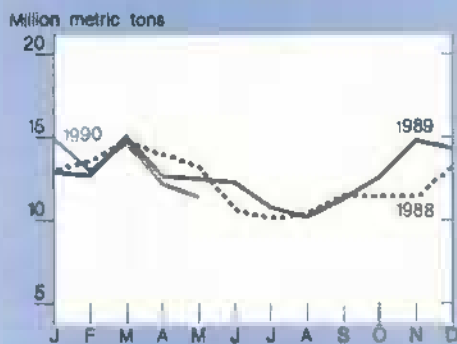
U.S. agricultural trade balance



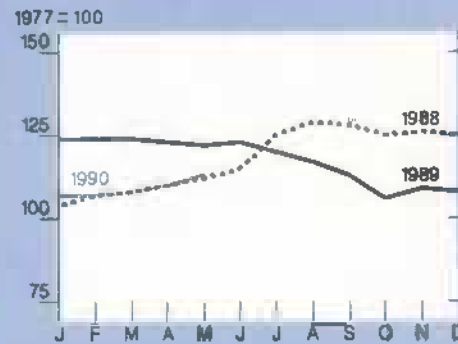
U.S. wheat exports



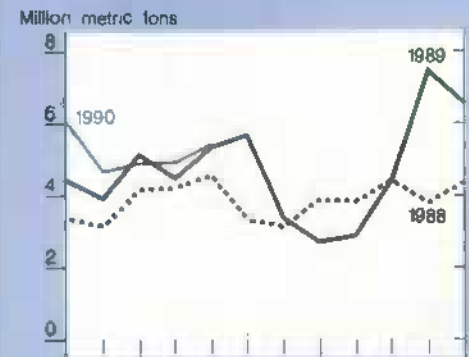
Export volume



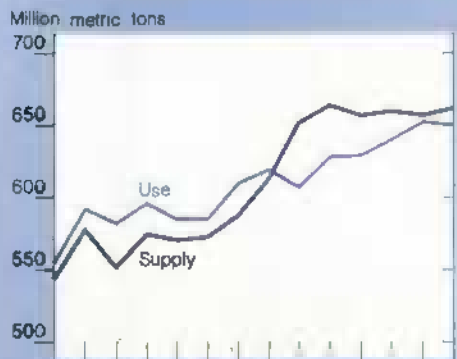
Index of export prices



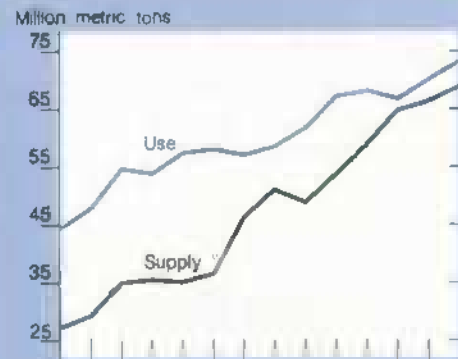
U.S. corn exports



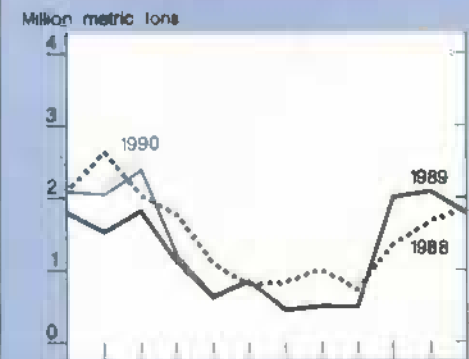
Foreign supply & use of coarse grains



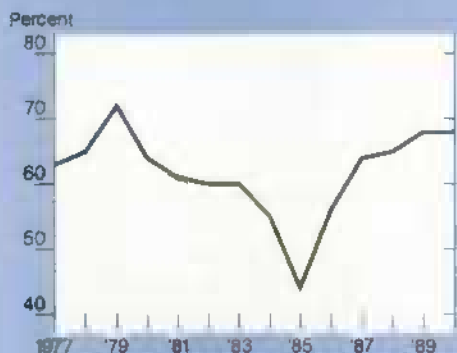
Foreign supply & use of soybeans



U.S. soybean exports



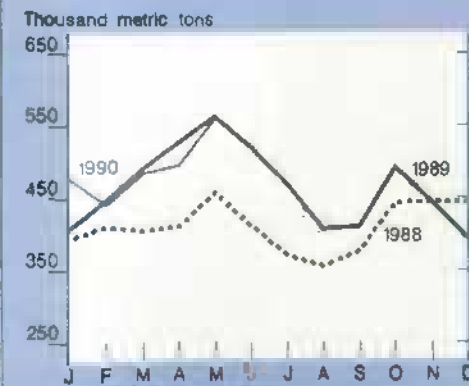
U.S. share of world coarse grains exports<sup>1,2</sup>



U.S. share of world soybean exports<sup>1,2</sup>



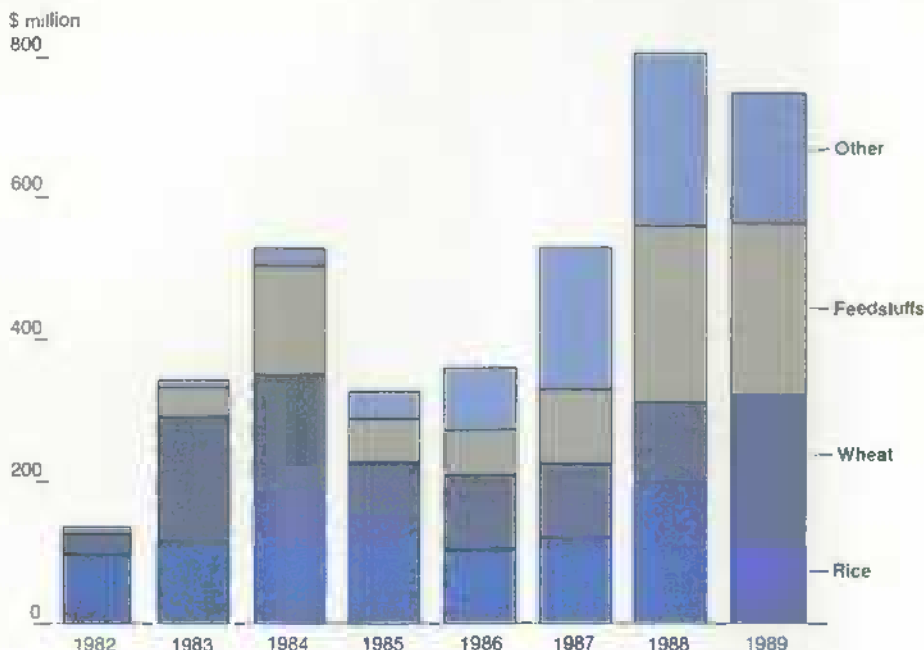
U.S. fruit & vegetable exports<sup>3</sup>



<sup>1</sup>Excluding intra-EC trade <sup>2</sup>October-September years <sup>3</sup>Includes fruit juices

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U.S. Ag Exports to Iraq Increased Fivefold Since 1982



imports, the remainder is corn. In the past, the U.S. and Canada supplied the bulk of barley imports, followed by the EC and Turkey. The U.S. has been Iraq's largest corn supplier in recent years; 1989/90 shipments reached a record 650,000 tons.

Iraq will find it difficult to replace U.S. corn because availability from other suppliers, including South Africa and Thailand, is limited. Among major exporters, only Argentina will have larger exportable supplies. However, there is no indication that Iraq will be able to obtain corn from Argentina.

USDA reduced the Iraqi calendar 1990 rice import forecast 9 percent to 500,000 tons. Since 1984, Iraq has been the top U.S. rice customer. In recent years, more than 80 percent of Iraq's rice imports have come from the U.S. Thailand supplied the bulk of the remainder, with small amounts coming from Australia and Uruguay. Vietnam and Pakistan have provided Iraq with little or no rice.

Iraq has been the leading Mideast market for U.S. protein animal feed, ranking first in 1988 and 1989. And Iraq's imports of soybean meal have been rising. During October-May 1989/90, U.S. shipments

totaled 313,300 tons. Brazil, Argentina, and China are the other major exporters of oilseed meals. Iraq does not produce or import significant amounts of oilseeds. On August 6, Brazil announced it would comply with the U.N. sanctions.

Iraq has been an expanding U.S. market for other sources of proteins, such as dry peas and beans. Turkey has been the main source of lentils and chick-peas for Iraq's army.

The country also has been almost totally dependent on imports for vegetable oil, more than 90 percent of which was Malaysian and Indonesian palm oil. The rest was sunflowerseed, coconut, and corn oils. In addition, about 95 percent of the sugar consumed in Iraq had been imported from Brazil, the EC, Cuba, the U.S., and Yugoslavia.

Iraq also imported cotton, mainly from the U.S. In fiscal 1990, Iraq used nearly \$25 million of GSM credit for cotton purchases. Turkey had been Iraq's main supplier before the shift to the U.S. Most Iraqi meat imports have come from the EC, Brazil, Australia, and Turkey. [John Parker and Michael Kurtzig (202) 786-1680 and Tom Bickerton (202) 786-3313] AO

## U.S. Soybean Exports To Rebound?

U.S. soybean and soybean meal exports trended down during the 1980's, sharply cutting the U.S. share of a growing world market. However, recent supply developments in the U.S., Argentina, Brazil, the EC, and China point to a possible halt in the decline. Nonetheless, Eastern Europe and the USSR stand to be highly variable customers; a lack of economic growth there would put downward pressure on U.S. exports.

U.S. soybean and meal exports (on a soybean meal equivalent basis) are forecast to be 18.2 million metric tons in 1990/91, 31 percent below the 1981/82 record. Exports are forecast to rise for the second year in a row since the 1988 drought, but remain well below the 21-26 million tons exported in all but 1 year between 1977/78 and 1987/88.

The focus in this article is on U.S. trade in soybeans and soybean meal. Even though meal and oil come from the same production process, the U.S. places a tariff on imported soybean oil and subsidizes most oil exports.

World trade in soybeans and meal grew an average of 11 percent a year during the 1970's, but slowed to just over 2 percent during the 1980's. The U.S. market share declined from a record 83 percent in 1969/70 to a forecast 37 percent in 1990/91.

### U.S. Supply Stagnant, Use Rising

Flat U.S. soybean supplies and rising domestic use partly explain this track record. Supplies averaged 57.5 million metric tons from 1987/88 to 1989/90, virtually unchanged from a decade earlier.



Supplies are expected to reach 57.3 million tons in 1990/91. Yet, domestic use grew steadily during the 1980's and averaged 6 percent higher than a decade earlier during 1987/88-1989/90.

Drought reduced U.S. soybean supplies in 1980, 1983, and 1988, but farm policy also played a role. The 1981 farm act increased loan rates and target prices for grains and cotton, all competitors of soybeans for area, without changing the loan rate for soybeans. The higher loan rates and target prices for program crops, low world soybean prices, and highly variable soybean yields in the Southeast placed soybeans at a disadvantage and area fell.

Under the 1985 farm act, high target prices for grains and cotton relative to soybean prices again made soybean production less attractive in some states and area continued to slide. U.S. soybean harvested area averaged 23.5 million hectares (about 58 million acres) between 1987/88 and 1989/90, 9 percent below a decade earlier. Over the same period, annual production dropped an average of 8 percent to 49.1 million tons (1.8 billion bushels).

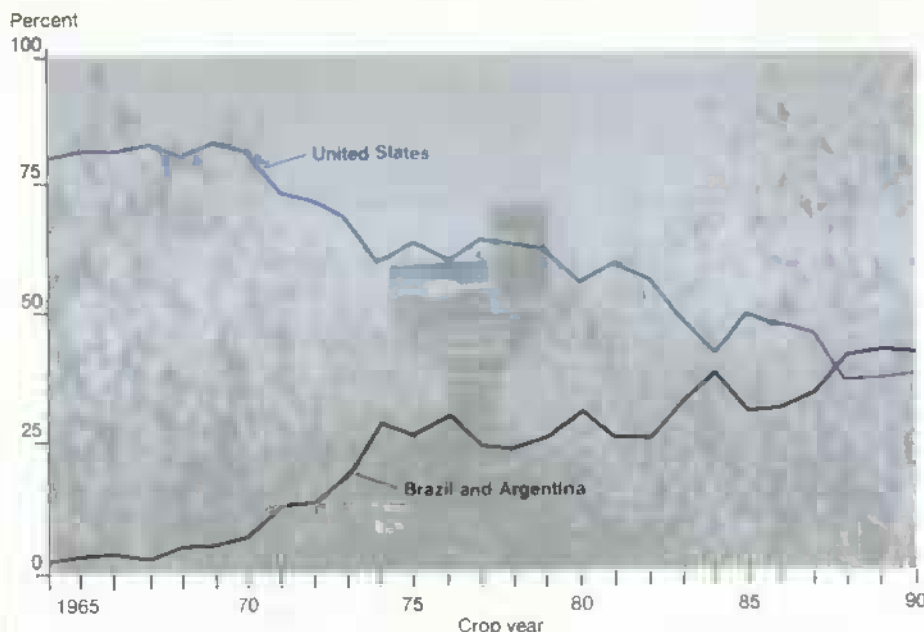
### Foreign Output Hindered U.S. Sales

The rise of oilseed production in Argentina, Brazil, and the EC provided strong export competition and cut import demand in the EC, the world's largest soybean market. Argentina and Brazil are the major South American soybean producers. Their area and production grew 23 and 28 percent a year during the 1970's.

Although Argentine and Brazilian production increases slowed considerably in the 1980's to 5 percent, this was off the larger base built up during the 1970's. Abundant, good-quality land, low production costs, subsidized credit for Brazilian producers, and foreign investments in Brazil supported the output gains.

Greater production led to higher exports from Argentina and Brazil as supply out-

### U.S. Has Lost Soybean Market Share to Brazil and Argentina



Shares of world soybean and soybean meal trade on a soybean meal equivalent basis. 1990 forecast.

stripped domestic demand. And the sluggish economies with large international debts in both countries during the 1980's limited growth of domestic demand. Soybean meal exports rose faster than bean exports because export taxes in both countries are lower for meal and oil shipments than for beans.

Combined soybean and meal exports from Argentina and Brazil in 1990/91 (October/September) are forecast to be a record 20.3 million tons, soybean meal equivalent, 42 percent of expected world trade. Soybean meal dominates the mix of Argentine and Brazilian bean and meal exports, while soybeans account for the majority of U.S. soy complex exports.

The EC is still the largest market for U.S. soybeans and meal. But, EC oilseed production rose nearly 17 percent a year during the 1980's, due primarily to very high producer price supports. And a shift from soybean to soybean meal imports particularly hurt U.S. sales.

Exploding production in the EC coincided with a substantial slowdown in the growth of oilseed meal consumption in the region. Total EC oilseed meal consumption grew less than 2 percent during the 1980's and soybean meal consumption was flat. During the 1970's, growth

was well above 5 percent a year for both categories.

Larger crushings of domestically produced high oil-content oilseeds, principally rapeseed and sunflowerseed, and slowing meal consumption reduced the EC's import demand, and shifted the import mix. By the late 1980's, 55 percent of the EC's imports arrived as soybean meal, versus 44 percent 10 years earlier. These changes also affected the world oil market, as the EC began to export surplus oil.

EC soybean imports in 1990/91 are forecast to be 12.2 million tons, 25 percent below the 1979/80 record, while expected soybean meal imports of 12.6 million are off just 9 percent from the 1985/86 record. U.S. soybean and meal exports to the EC have fallen from a record 13.2 million tons in 1981/82 to an estimated 6.8 million in 1989/90.

### U.S. Exports: Brighter Prospects?

Several developments point toward a more favorable environment for U.S. soy-

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bean and meal exports. Debate on the 1990 farm bill points to likely changes in policies affecting soybeans, while the growth of South American soybean production has slowed. Moreover, EC price supports are under budgetary pressures, and soybean meal exports from China, a major U.S. competitor, have slipped because of rising domestic use.

The location of U.S. soybean acreage and discussions on acreage provisions surrounding the 1990 farm bill indicate stable to rising soybean area. Much of the last decade's decline in area occurred in the Southeast and Delta states, where expected yields and average per acre returns are lower than in the Corn Belt, the traditional soybean area. Thus, soybean prices probably would have to decline more than they did in the mid-1980's to shift significant Corn Belt area out of soybeans.

A main issue in the farm bill discussions is how much flexibility to give farmers to respond to market signals when making planting decisions. For soybeans, this means allowing farmers to plant some of their program crop acres to soybeans without suffering a loss of program crop base.

Base acreage largely determines how much a grower can receive in farm program payments. If planting flexibility is increased, some acreage currently planted to corn to maintain base history and receive deficiency payments would be planted to soybeans instead and soybean supplies would rise.

In addition, the soybean marketing loan in the House and Senate 1990 farm bills would tend to maintain supplies at competitive market prices for export and domestic use whenever the world price dropped below the loan rate. Marketing loans discourage accumulation of government stocks. When world prices are less than the loan rate, producers may sell their crop at the world price and receive the difference between the loan rate and adjusted world price from USDA.

Both bills would institute marketing loans beginning in 1991/92. However, serious debate continues on the marketing loan provisions due to the Administration's concerns over the high potential cost of the program if world market prices drop below the loan rate. Negotiations in Congress over their two marketing loan versions and with the Administration will determine whether a marketing loan is instituted and what loan rates are selected.

### *Why Not U.S. Soybean Exports?*

Several factors have hindered any expansion of U.S. soybean oil exports, which are quite small compared with soybeans and meal. First, soybean oil has lost market share because of greater world palm oil production. Its producers generally price palm oil at a discount to soybean oil.

Second, price policy within the EC has encouraged larger oilseed production and led to increased EC subsidized vegetable oil exports. And finally, Argentina and Brazil impose export taxes that favor product exports over raw soybean exports.

### *South American Output & Export Growth Slows*

World commodity price shifts and severe economic problems have slowed the growth in South American soybean output and exports. A deteriorating soybean/corn price ratio over the last two seasons is likely to limit growth in Argentine soybean acreage to just 6 percent in 1990/91.

Brazil's soybean area is expected down for the third straight year. The government has curtailed subsidized credit for farmers because of severe economic problems, while rising input costs have cut chemical application rates and lowered yield potential.

Combined Argentine and Brazilian soybean production in 1990/91 is forecast to be 31.5 million tons, barely 5 percent above 1989/90, and the third straight year of single-digit growth. Combined soybean and soybean meal exports are forecast to be 20.3 million tons in 1990/91, less than 3 percent higher.

The EC oilseed policy regime has come under scrutiny because of its cost. Price supports of one-half to two times the world price level and rapidly rising area pushed budget outlays to about \$3.5 billion in 1988, 14 percent above the 1987 level.

But the EC has used supply-control measures. The EC's most recent system to penalize overproduction was instituted in early 1988 and succeeded in reducing the 1988 and 1989 oilseed harvests, the first annual declines since 1976. However, production in 1990 is forecast to be a record 12.7 million tons. The forecast exceeds production ceilings and will trigger cuts for 1990-crop rapeseed, soybean, and sunflowerseed price supports.

It's unclear whether the current EC oilseed policy regime will be further modified to strengthen production controls. However, if the EC agrees to liberalize agricultural policy under the GATT negotiations, their oilseed production and oilseed meal consumption would fall.

China emerged as a major soybean and soybean meal exporter in the early 1980's. Exports peaked at 3.5 million tons (in soybean meal equivalent) in 1987/88, but have dropped substantially since then and probably will continue declining. Population and income growth are causing domestic meal use to rise faster than soybean production.

### *E. Europe & USSR Cloud the Outlook*

Eastern Europe and the USSR are the second and third largest soybean meal

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importers, together accounting for 25-30 percent of world imports. Demand prospects for the region are crucial to U.S. exports. Both areas have extensive livestock sectors, significant room to improve feed quality, and little prospect of reducing their almost total dependence on imports for soybean meal.

But the region's economic and political disruptions are creating great uncertainty. Hard currency shortages, long an import constraint in Eastern Europe, are now restraining Soviet purchases. And higher retail food prices associated with phasing out subsidies could sharply reduce the demand for meat and hence the demand for soybean meal.

Alternatively, adequate supplies of meat at stable prices would ease the transition to free markets. Livestock and product exports, particularly for Eastern Europe, are a traditional source of hard currency and stand to eventually increase under market reforms.

Combined USSR and East European soybean meal imports of 7.8 million tons forecast for 1990/91 would be up 8 percent from a year earlier, but below the record 8.1 million in 1988/89. The region's soybean meal market is not likely to contract. But annual import growth will slow at least in the near term. [Robert Cummings (202) 786-1820]

See Hoskin, R., "Why the Drop in Soybean Area?" in *Agricultural Outlook*, July 1990, and Bickerton, T. and Glauber, J., *World Oilseed Markets—Government Intervention and Multilateral Policy Reform*, USDA/ERS, March 1990.—Ed. AG

## Policy Options To Help the Environment

The conservation title of the 1985 Food Security Act marked a fundamental change from past legislation. Major conservation provisions were integrated with commodity programs. The Conservation Reserve Program (CRP), conservation compliance, sodbuster, and swampbuster provisions focused on limiting soil erosion and protecting grass or range lands and wetlands.

This year, the focus of environmental interest has shifted. The discussion surrounding the 1990 farm bill includes much more concern about agrichemical use. Concerns about potential groundwater and surfacewater quality problems due to the overuse or misuse of fertilizers, pesticides, and animal waste have surpassed many concerns about erosion. And the Alar scare and the Big Green pesticide ban initiative in California show the new prominence of food safety issues.

With this new focus, interest has turned to the impact of proposed changes to the farm bill on fertilizer and pesticide use. The question is, what would happen to agrichemical use and the incidence of environmental damage if farm program rules were changed and if wetlands protection or land reserves were expanded?

A simulation of some hypothetical policy options projected what some of the impacts might be. The projections indicated that the changes may be relatively moderate—and even more moderate than many expected. Moreover, the potential environmental impacts vary widely over regions. The options used here were put together prior to when the House and Senate versions of the 1990 farm bill were available, and so do not fully reflect current proposals.

Two key program and program crop characteristics help shape the estimated impacts. First, program crops like corn



and cotton are big users of agrichemicals. They use more than many nonprogram alternatives like soybeans. Thus, part of the impact on chemical use comes from program or land use changes that shift land to crops that are less chemical-intensive.

Second, the proposed program changes would affect not only what crops were grown but also where the crops were grown. These changes, in turn, tend to drive the projections of regional changes in chemical use.

### Flexibility Would Cut Chemical Use

Giving farmers more planting flexibility means that they could use a portion of the acres they are allowed to plant to a supported program crop to grow other crops that might be more attractive based on market prices. Simulations show what would happen if farmers were allowed to flex 20 percent of their program crop base or 100 percent of their base.

For the projections, farmers were assumed to receive their deficiency payments if they flexed production, so income guarantees remained in place and they had complete freedom to follow market signals. In general, farmers would plant fewer acres of program



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crops, such as corn, and more of nonprogram crops, such as soybeans and hay. Because program crop plantings would drop, prices would rise, and total government payments would be expected to fall.

However, nonprogram crops would compete against the target prices for program crops in the House and Senate versions of the farm bill.

How does giving planting flexibility affect the environment? There is very little change (less than 1 or 2 percent) in national agrichemical use with 20-percent flexibility. With the 100-percent flexibility, the simulations show 4- to 7-percent less harvested acreage of barley, corn, rice, sorghum, and wheat. Cotton area would only decline a little over 1 percent, and oats by even less.

These declines would be partially offset by a rise in nonprogram crop area. So, the ratio of nonprogram to program crop acreage would increase almost 6 percent. However, these results on cropping pattern changes are very sensitive to the initial crop prices and production cost estimates used in the simulations.

With complete flexibility, nitrogen fertilizer use would decline about 4 percent and pesticide use would fall more than 2.5 percent. The potential for nitrogen leaching would drop in all regions except the Northeast, Appalachia, and the Delta, reflecting a new mix of where program crops were grown.

Erosion would decline in Appalachia and the Corn Belt with the simulated drop in the plantings of the more erosive program crops, but would increase slightly in the Delta due to an increase in harvested area and a shift to more erosive crops. Nationwide, soil erosion would drop with total flexibility—the largest benefits would be in the Northern Plains and Lake States.

### **Base Limitation: A Sledgehammer**

Another simulated approach to promoting greater crop diversity is to limit the percentage of a farm's program acres

that can be planted to any single program crop. A restrictive 33-percent base limitation would reduce corn acreage 15 percent, rice acreage 2 percent, and sorghum and wheat acreage about 6 percent. Barley, cotton, and hay acreage would rise by 1 percent or less. With the 33-percent limit, nitrogen expenditures would fall about 5 percent and pesticide expenditures would fall about 4 percent.

Under this scenario, the reductions in corn and soybean area in the Corn Belt and the Plains would be large enough to result in a 6-percent cut in nitrogen leaching potential. There would be no change in the number of acres vulnerable to pesticide leaching.

### **Reserves Have Diverse Benefits**

Another option is to establish a wetlands reserve by purchasing easements on eligible cropped wetlands to restore wetlands status. This would effectively reduce cropland acres. The largest restored acreage probably would be in the North Central and Corn Belt states, with the most in Minnesota.

The environmental benefits of such a program are diverse, ranging from improved fish and wildlife habitat to flood retardation and improved groundwater recharge. Cuts in land vulnerable to pesticide and nitrate leaching would range from 0.5 percent with a 2.5 million-acre wetland reserve, to about 1 percent for a 5-million-acre reserve.

Dollar benefits from decreased flood damage and improved recreation stand to make this a more attractive program—especially since direct reductions in commodity program costs would help offset the new direct costs of the easement purchases necessary to create the wetland reserves, according to the simulations.

Another option would be to expand the CRP by 5 to 10 million acres beyond the current 40-million-acre target. Again, starting from the enrollment target, total government program costs probably

would decline by about as much as the cost of enrolling the additional land in the CRP.

If additions to the CRP are aimed at improving surface water quality, the annual water quality benefits from an additional 5 million acres are estimated to be \$25-\$80 per acre. The benefits would drop to \$20-\$60 per acre with the full 10-million-acre expansion. There are additional wildlife habitat benefits.

Finally, CRP expansions would reduce the amount of planted acres vulnerable to leaching of fertilizers and pesticides into groundwater. Overall reductions probably would be 2 percent for the 5-million-acre expansion and 5 percent for the 10-million-acre expansion. The majority of the groundwater benefits would occur in the Northeast.

### **For Further Thought...**

The estimates here are driven by simulated changes in crops grown. They reflect little about the particular rotation patterns that these crops might be grown in. So, environmental benefits from program changes might be greater than estimated here.

For example, where soybean production increases, the beans might be in rotation with corn, and so reduce or eliminate the need for insecticides for corn rootworm—giving a greater reduction in pesticide use than anticipated here. In this sense, the agrichemical reductions reported here are on the conservative side.

Finally, these projections are based on modifications to commodity programs. If commodity programs become less attractive for any reason, participation will fall, limiting the effectiveness of conservation cross compliance provisions. [Otto Doering and David Ervin (202) 786-1401]. **AO**



## California's Flexible Waterworks

**D**espite cutbacks of up to 50 percent in surface water for irrigation in California, crop producers in most irrigated areas there are expected to suffer only minor setbacks. That's because of the state's flexible and sophisticated water storage and delivery system.

Minor reductions in farmers' net returns are expected to be widespread as many irrigated growers shift from surface water to more expensive groundwater. But where groundwater is not available, net returns will decline sharply. Nevertheless, similar drought conditions elsewhere would result in much bigger drops in production and net returns.

Ultimately, however, the surface water supply depends on precipitation. Four consecutive drought years—with precipitation ranging from 60 to 85 percent of the 30-year average—have drained California's reservoirs, leading to this summer's water delivery restrictions.

The expected impacts this year pale in comparison with the probable consequences of another drought year in 1991—surface water deliveries for irrigation would be cut even more sharply. Production and net returns would be severely affected.

### Groundwater Use Is Rising

Currently, water shortfalls vary with area and type of use. The U.S. Bureau of Reclamation (USBR) and the California State Water Project (SWP) have both reduced water supplied to most agricul-

tural users by 50 percent. But there are some notable exceptions.

Some older irrigation districts along the San Joaquin and Sacramento rivers are receiving their full allocations, which account for about 20 percent of the surface water delivered for irrigation by the USBR in an average year (see box). Most municipal and industrial users served by USBR face 20- to 25-percent cuts in deliveries, while some have had deliveries reduced as much as 50 percent. However, the SWP has not cut deliveries to municipal and industrial users.

The agricultural sector appears to be using more groundwater in lieu of the reduced surface water supplies. In 1990, irrigated acreage is expected to decline no more than 500,000 acres—about 7 percent of the acreage irrigated statewide in 1988. The drought will most severely affect production of "lower-valued" crops such as forage. Lower irrigation water application rates and some fallowing will reduce output of forage crops, irrigated hay, and pasture.

In turn, the drought is expected to deal its heaviest blow to livestock producers, who face shortages of forage for summer grazing and higher hay prices from reduced irrigated production. In 1987, the value of agricultural products sold from California farms totaled almost \$14

billion. Of this, dairy products and beef cattle accounted for \$3.4 billion, more than vegetables, cotton, and all grains combined.

### Major Crops Are Relatively Unaffected

Rice, the state's most water-intensive crop, appears to have been only slightly affected by the drought. Rice is grown primarily in the Sacramento Valley within irrigation districts that have received their full allocations. Acreage is down somewhat, as some farmers heeded early warnings of possible water cutbacks and missed their planting dates. Most producers who did plant rice have enough water to maintain normal application rates.

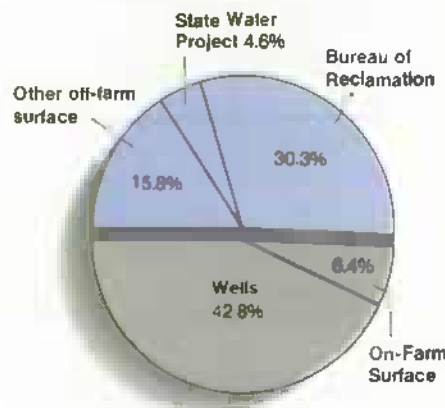
The cotton crop also is expected to come through relatively unscathed this year, due to adequate groundwater supplies and cooperative exchanges between districts in the southern San Joaquin Valley, the major growing region.

But for some growers, failed wells and exhausted surface water allocations will mean no irrigation at the end of the season. Some private analysts expect that even these producers may be able to absorb lower yields because of upward pressure on cotton lint prices.

Prospects are dimmer for the 1991/92 cotton crop, with many more growers likely to be affected if drought persists. Most would have little, if any, water available for irrigation to prepare for spring planting. A reduction—possibly quite large—in cotton acreage is almost inevitable next year if the drought persists through another winter.

Statewide, the effects on specialty crops—fruits, nuts, and vegetables—are expected to be minimal, though some local impacts may be severe. Some USBR-served districts with especially low per acre allocations may qualify for additional water under USBR's "hard-

Off-Farm Surface Water Provides About Half of California's Agricultural Water Supply



1988 data.

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ship criterion" to keep perennial crops, excluding pasture, alive.

This "hardship" water is intended only for the survival of the tree or vine and is not sufficient to produce a harvestable crop. Drought stress is likely to hold down yields for a year or more following the end of a drought.

Despite the relatively high value of vegetable crops, vegetable acreage probably will decline in the San Joaquin Valley this year. Vegetables in this region are normally grown as a second crop, planted after a summer crop such as tomatoes, melons, or cotton has been harvested.

Many growers will have used their entire allocation to irrigate the summer crop, leaving nothing for a second crop. Still, statewide production of fruits and vegetables is expected to be close to normal.

### *Water Sources Are Flexible*

California producers irrigated over 7.5 million acres in 1988—about 80 percent of the active cropland—with 23.3 million acre-feet of water. About 40 percent of these acres, concentrated in 14 percent of the farms, had access to more than one water source. Thus, many producers, especially large farmers, have water-source flexibility.

In years of surface water shortages, for example, more expensive groundwater is used. In 1988, 43 percent of water used for farming was groundwater, 6 percent was surface water from on-farm sources, and 51 percent was surface water from off-farm sources (primarily irrigation districts). Even though 1988 was a dry year, surface water deliveries were normal.

Over half of the irrigated farms in California use surface water purchased from off-farm sources, but only 37 percent depend solely on this source. In 1988, USBR supplied the largest share of off-

farm water, about 30 percent of all water used by agriculture. Individual irrigation districts provided about 20 percent from their own sources, while the SWP supplied about 5 percent.

California's irrigated area is served with water from the California and lower Colorado River basins. Water users in the California basin—municipal, industrial, and agricultural—store water in 148 reservoirs with a total capacity of 34.5 million acre-feet. The USBR and the SWP link these reservoirs to each other and to downstream users with 87 major pumping plants, and 2,500 miles of aqueducts, pipelines, and tunnels.

Water from the lower Colorado River basin irrigates desert lands in the Imperial and Coachella Valleys of southern California. Colorado River water also is a major source for the Metropolitan Water District, the main provider for urban users in Southern California.

So far, the severe surface water delivery reductions are unique to the Central Valley. The drought has not affected surface water recipients in the extreme southern part of the state. Irrigation districts in the Imperial and Coachella Valleys, comprising 8 percent of the state's irrigated acreage, have received their full allocations this year.

### *Water Can Move To Dry Areas*

In times of drought, water tends to move from the haves to have-nots. Water may be moved, or "wheeled," long distances through the canal and reservoir system. Water wheeling means that, as the water being transferred enters one system, the same quantity (adjusted for losses) is released to the next system. Thus, the drought area receives the proper amount of water, but it is not physically the same water that was purchased.

### *California Water: Who Got There First Counts*

Water rights in California, and throughout the West, are based on the "prior appropriation doctrine," that means "first in time, first in right." The doctrine holds that a right is established from the date of earliest diversion for the quantity that is put to "beneficial use." Historically, diversions for irrigation, municipal, and industrial use have been considered beneficial, while conservation and instream flow uses have not.

As a consequence, the drought's impact has not been felt equally by all recipients of USBR water. Members of the Sacramento River Water Contractors Association, for example, have received their full allocation. These districts and individuals have water rights that predate the development of the federal or state water delivery infrastructure. The water service contracts these districts subsequently signed with the USBR reflect this priority.

The contracts contain "trigger clauses" stipulating that the districts are to receive their full allocations except in cases of extremely low river flow conditions. The districts were expected to be subject to a 25-percent reduction in their 1990 water allocation. This contingency was narrowly averted when late spring rains pushed the cumulative runoff just over the contractual threshold, thereby obligating the USBR to provide the districts their full allocation.

## Resources

Both the USBR and the SWP allow water to be wheeled through their pumping plants and aqueduct systems. Water transfers involving USBR water or infrastructure are subject to USBR policy, and therefore may not result in a profit to the supplying district. Sellers are allowed to charge enough to cover additional costs incurred by the transaction.

As of midsummer, the USBR had approved transfers for agricultural use of only about 15,000-20,000 acre-feet of surface water stored in its reservoirs. It is approving transfers of currently stored federal water only if they meet the "hardship criterion," citing the need to reserve water to maintain wildlife habitat and to prepare for a possible drought next year. Petitions for additional transfers for agricultural use are pending, and more USBR water may move before the end of the season.

Some irrigation districts in the Central Valley are pumping groundwater to nearby districts in exchange for future surface water allocations. Future allocations would go to recharge the aquifer. However, net returns to farmers may be significantly reduced. That's because the cost of irrigation water acquired through such exchanges can be as much as double the cost of surface water in a normal year.

### ***Institutional Change Would Help***

Factors other than drought have exacerbated the problem. The West in general is facing increasing demand for water, both to meet the claims of all diverting users and to maintain instream flow. Historically, California has used more than its allotted share of Colorado River water, which has been possible as long as other states have failed to use their entire allotments.

As the Central Arizona Project nears completion, Arizona is capturing more of its share, reducing diversions for California. Increased instream flow levels necessary to maintain environmental quality

translate into reduced diversions by Los Angeles from Mono Lake and the Owens Valley and increased release of water into the Sacramento-San Joaquin River delta.

The long-term solutions to California's (and the West's) water problems lie in institutional adjustments and conservation. Currently, significant institutional barriers inhibit the transfer of water between users throughout the West.

Users with ample water are often prevented from transferring it to others for whom the value is higher. Incentives for holders of water rights to invest in conserving technologies would be increased if the "use it or lose it" nature of appropriative water rights were modified. Such legislative changes could mean more efficient use.

Difficult times call for innovative solutions. For example, additional Colorado River water will be going to the Metropolitan Water District from agricultural users in the Imperial and Coachella Valleys—a transfer made possible by irrigation water conservation measures financed by the Metropolitan Water District.

Additional cooperation among users and regulators will encourage conservation and allow water to move from lower to higher value uses. [Noel Gollehon and Mark Kramer (202) 786-1410] **AO**

### **Upcoming Economic Reports**

#### **Summary Released Title**

#### **September**

- |    |  |
|----|--|
| 12 | World Ag. Supply & Demand                              |
| 13 | Fruit & Tree Nuts                                      |
| 14 | Sugar & Sweetener                                      |
| 18 | Tobacco  |
| 20 | Agricultural Outlook                                   |
|    | U.S. Agricultural Trade Update                         |
| 21 | Livestock & Poultry Update                             |
|    | Agricultural Resources-Cropland, Water, & Conservation |
| 24 | World Agriculture                                      |
| 26 | Aquaculture  |

## Transportation



### **Barge and Rail Traffic Normal Again**

With near normal navigation conditions in the Mississippi River system, and grain and soybean exports down from January's peak, the U.S. transportation system has returned to usual operations. This follows a period of tight conditions, largely due to increased corn sales to the Soviet Union and delays caused by low water conditions on the Mississippi River.

Recent increases in diesel fuel prices caused by Iraq's invasion of Kuwait suggest that transportation costs are likely to increase in the coming months. But, because railroads often hold significant inventories of diesel fuel and obtain fuel under long term contracts, their costs are partly shielded from short-term fluctuations in fuel prices.

And barge operators will attempt to reflect the rising costs in rate hikes. But the low rates reported in May and June, despite relatively large volumes moved, suggest that competitive pressures will hinder attempts to raise rates.

Total domestic consumption and exports of grain and soybeans are now estimated



## Transportation

at 358.9 million metric tons for the 1989/90 crop year, up 7.2 percent from a year earlier, but 3 percent below 1987/88. For 1990/91, consumption and exports are projected to be 358.2 million metric tons.

Transportation services are expected to be adequate for the remainder of the year. However, projected low water flows from the Missouri River mean that navigation will be difficult on the Mississippi River between St. Louis and Memphis this fall.

The U.S. Army Corps of Engineers has announced that, as in 1989, the Missouri River will be closed for navigation beginning November 1. The shortened navigation season is expected to increase the cost of grain marketing for firms using the Missouri River, but not markedly cramp the distribution system's ability to respond to jumps in demand for grains and oilseeds.

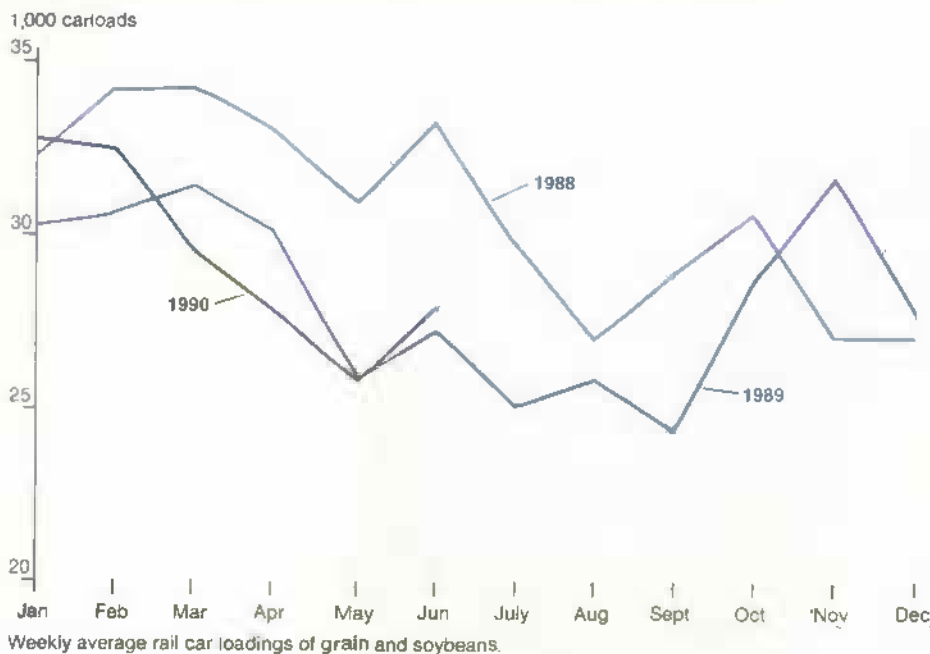
### Rail Deliveries Down

In March 1990, weekly average rail car loadings of grain and soybeans fell 10 percent from January's high to 29,500 cars, a quantity easily supplied by railroads. And by May, loadings had fallen to 25,800 cars per week, down from 25,900 a year earlier. However, loadings rose to 27,900 per week in June, up 2 percent from June 1989. Thus, the squeeze on rail service appears to have ended and is not expected to return for the remainder of the year.

In addition, the supply of covered hopper cars is expected to increase. The Burlington Northern Railroad has announced that, beginning in June, it will add 60 new covered hopper cars each week until a total of 1,000 additional cars is reached.

Also, CSX is asking shippers to forecast car needs 14 days in advance to allow the railroad, with the aid of a computerized program, to place cars when and where

Soviet Corn Purchases Triggered Surge In Rail Shipments Last Fall



needed. However, some short-term, scattered rail car shortfalls are expected when the corn and soybean crops are harvested.

In April, rail deliveries of grain to export points declined 37 percent from January. In May, they dropped an additional 13 percentage points to 6,938 cars per week. In March and April, deliveries to ports accounted for about 40 percent of all rail grain shipments, down slightly from 43 percent in January. In May, rail exports accounted for a more usual 27 percent. Rail deliveries of grain to ports averaged 30 percent of all rail grain shipments during 1988.

The May decline was sharpest at North Atlantic ports, 83 percent below January. May rail deliveries of grain to Pacific Coast ports fell 32 percent from January and accounted for nearly 14 percent of all grain rail loadings.

Shipments of grain to Pacific Coast ports require a relatively large number of car days compared to North Atlantic ports. Thus, reductions in rail shipments to Pacific ports result in a disproportionate drop in demand for rail service.

Rail rates increased slightly during the year. In January, the Bureau of Labor

Statistics' (BLS) index of rail grain rates stood at 109.1 (December 1984=100) and by April had risen less than 1 percent to 110.3. The April index was up only 1.1 percent from a year earlier, and by June it had declined to 108.9. In contrast, rates in 1989 averaged 3.1 percent above 1988.

This year's modest increases reflect declining railroad operating costs, adjusted for productivity increases, over the past 12 months. For the third quarter of 1990, the Interstate Commerce Commission projected costs adjusted for productivity gains to be 1 percent below the second quarter.

### Barge Shipments Return to Normal

With the upper Mississippi River reopened in mid-March, and navigation below St. Louis back to near normal, the system returned to its dominant role in transporting feed grains for export. In the first 6 months of 1990, corn accounted for 77 percent of the down-

stream traffic on the Mississippi and soybeans accounted for 13 percent.

This May saw 5.2 million tons shipped, a 10-year record for the month. This was 21 percent greater than a year earlier and 58 percent above the 1989 average. However, June volume slackened 13 percent to 4.5 million tons, 10 percent above a year earlier.

Near-normal navigation conditions were maintained during the rest of the summer. In March, the river stages at St. Louis averaged 138 percent above a year earlier and 13 percent above the month's 1944-88 average.

In April, the water fell slightly below 1989 levels. But heavy rains in May caused it to average more than 300 percent above a year earlier and 25 percent above the 1944-88 average.

In June, the water continued to rise. It averaged nearly 26 feet at the flood gauge, nearly 60 percent above the long term average and 280 percent above a year earlier. July showed a substantial lowering to 18.6 feet, although the long term average for July is 13.4 feet. The July 1989 average was only 1.7 feet.

Water levels are expected to fall for the remainder of the year. Even so, towboat captains have become experienced with low water conditions, and the new Melvin Price lock and dam complex near Alton, Ill., is expected to greatly reduce the number and length of backups that characterized the past two seasons.

## Less Water On The Missouri River

Long-run prospects for navigation on the Mississippi River are less optimistic. In 1988, 60 to 80 percent of the total water flow at St. Louis came from the Missouri River. And between 40 and 60 percent of the flow came from the Missouri River reservoir system in Montana and

the Dakotas. Data for 1989 are not yet available, but the percentages are believed to be about the same as in 1988.

Normally, runoff, chiefly from snow-melt, would add 25 million acre-feet of water to the reservoirs each year. But from 1987 to 1989, only 12.5 to 21.3 million were added annually. For 1990, 20.5 million acre-feet were forecast, but it now appears that the actual runoff will be somewhat less. The Corps of Engineers estimates that it will take 6 years of normal runoff to raise the Missouri River reservoirs to full capacity.

In June, heavy, sometimes torrential, rains raised the Missouri's level at Kansas City to nearly 20 feet, up 300 percent from June 1989. At Sioux City, Iowa, however, water levels in June averaged 16.6 feet, about 1 foot below a year earlier.

It was because of reduced water in the Missouri that the Corps of Engineers announced plans to terminate the navigation season (the period in which they attempt to release enough water from the reservoirs to permit navigation) on November 1, 1990, and reduce the flow of water to about 82 percent of the in-season normal. This suggests that water levels will plummet in November.

In November 1989, the river's level at Sioux City averaged 10 feet at the flood gauge, a 6-foot drop from October. It appears likely that the flow from the Missouri River into the Mississippi this year will be no more, and possibly less, than in 1989. Thus, navigation conditions on the Mississippi between St. Louis and Cairo, Ill., should remain adequate through the summer, but could deteriorate early in the fall. Low water might be encountered well before the winter freeze.

## Barge Rates Decline

Barge rates to New Orleans fell through March from their December 1989 peaks of \$12.15 per ton at Peoria and \$7.05 at St. Louis, as navigation conditions improved. In March, rates averaged \$6.43 per ton from Peoria and \$4.92

from St. Louis, down 12 and 3 percent from February.

But in April, rates rose sharply in response to a 28-percent increase in grain volume. At Peoria, rates advanced 25 percent to \$8.06 per ton, and at St. Louis the hike was only slightly less, 23 percent, to \$6.04 per ton.

Despite a 15-percent increase in the May volume of grain shipped on the Illinois and Mississippi waterways, rates to New Orleans fell during both May and June. From April to June, rates from Peoria fell 37 percent to \$4.87 per ton, and from St. Louis were down 29 percent to \$3.99. Preliminary indications are that rates declined further in July. [T. Q. Hutchinson (202) 786-1840] **AO**

## Upcoming Releases From the Agricultural Statistics Board

The following list gives the release dates of the major Agricultural Statistics Board reports that will be issued by the time the next *Agricultural Outlook* comes off press.

### September

- 5 Egg Products  
Walnut Production-Tentative
- 6 Dairy Products  
Poultry Slaughter
- 7 Celery
- 10 Vegetables
- 12 Crop Production
- 13 Turkey Hatchery
- 14 Milk Production
- 19 Cattle on Feed
- 20 Catfish
- 21 Cold Storage  
Livestock Slaughter
- 24 Hop Stocks
- 25 Citrus Fruits
- 26 Eggs, Chickens, & Turkeys  
Potatoes
- 27 Grain Stocks  
Peanut Stocks & Processing
- 28 Agricultural Prices  
Hogs & Pigs  
Trout Production

## Food and Marketing



## Food Prices Outpace Inflation

**T**he Consumer Price Index (CPI) for food rose faster than expected in the first half of 1990. As a result, the 1990 food price forecast has been revised upward by 2 percentage points. Currently, food prices are expected to average 5 to 7 percent above 1989.

However, most of the price increases this year have already occurred and changes in the second half are expected to be more modest. This assumes that most of the evolving oil price shock will take until next year to spill over into food prices.

While higher farm prices, particularly for cattle and hogs, are adding significantly to food price increases in 1990, the cost of processing and distributing foods also will rise more than previously expected. Stronger oil prices resulting from the embargo on Iraqi and Kuwaiti oil will increase the cost of growing, processing,

packaging, and distributing finished consumer foods. But because of the rapidly changing oil-price situation, it's unclear how fast and how much the increases will ripple through food prices.

Manufacture of packaging materials is energy-intensive and the costs are sensitive to increases in crude oil prices. Plastic packaging comes directly from petroleum and costs are expected to increase. Transportation costs also will rise as oil prices climb, causing increases in food prices.

### Sharp First-Half Gains

In the first half, the percent change in the CPI for fresh fruit, pork, eggs, and dairy products all showed double-digit increases from a year earlier. Strong price increases also occurred for fresh vegetables, beef, and processed fruit.

The CPI for all food in first-half 1990 averaged 6.1 percent above a year earlier, while the CPI for all items less food averaged 4.7 percent higher. Because

### Fresh Fruit, Pork, Eggs, and Dairy Product Prices Took Off...

Consumer price indexes	First-half 1990 compared with first-half 1989
	Percent change
All items	4.9
All items less food	4.7
Food	6.1
Food away from home	4.8
Food at home	6.9
Beef and veal	7.5
Pork	11.1
Poultry	-0.7
Fish and seafood	2.6
Eggs	11.1
Dairy products	10.7
Fats and oils	2.8
Fresh vegetables	9.5
Processed vegetables	2.8
Fresh fruit	14.3
Processed fruit	8.0
Sugar and sweets	4.6
Cereals and bakery products	6.4
Nonalcoholic beverages	1.5
Other prepared foods	4.5

### ...Causing Overall Food Price Inflation To Accelerate

Consumer price indexes	1987	1988	1989	Forecast 1990
	Percent			
Food	4.1	4.1	5.8	5 to 7
Food away from home	4.0	4.1	4.6	4 to 6
Food at home	4.3	4.2	6.5	5 to 7
Meat, poultry, and fish	6.4	3.5	5.0	4 to 6
Meats	7.1	2.4	4.0	6 to 8
Beef and veal	7.6	5.5	6.4	5 to 7
Pork	8.2	-3.0	0.6	10 to 14
Other meats	6.3	2.6	2.8	7 to 9
Poultry	-1.5	7.2	9.9	-1 to -3
Fish and seafood	10.6	5.8	4.5	2 to 4
Eggs	-5.9	2.3	26.6	-3 to -7
Dairy products	2.5	2.4	6.6	8 to 10
Fats and oils	1.5	4.6	7.2	3 to 5
Fruits and vegetables	8.8	7.6	8.5	8 to 10
Fresh fruits	11.3	8.3	6.6	14 to 17
Fresh vegetables	12.9	6.3	10.7	4 to 6
Processed fruits & vegetables	3.5	7.9	6.3	6 to 8
Processed fruits	4.1	10.3	3.2	10 to 13
Processed vegetables	2.7	4.8	10.7	0 to 2
Sugar and sweets	1.8	2.7	4.7	3 to 5
Cereals and bakery products	3.5	6.4	8.4	5 to 7
Nonalcoholic beverages	-2.6	0.0	3.5	2 to 4
Other prepared foods	4.2	3.7	6.4	3 to 5

Source of historical data: Bureau of Labor Statistics. Forecasts by Economic Research Service.



## Food and Marketing Indicators

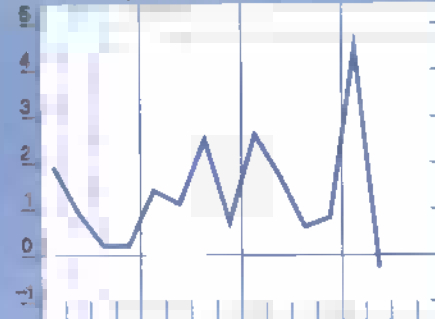
## Food and Marketing

CPI: Total food<sup>o</sup>

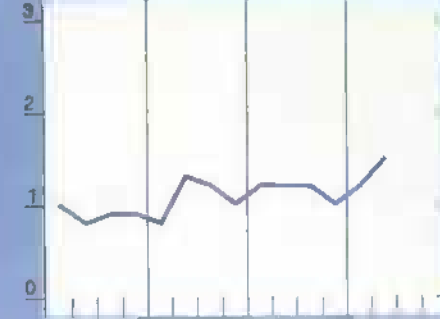
Percent change

CPI: Food at home<sup>o</sup>

Percent change

CPI: Food away from home<sup>o</sup>

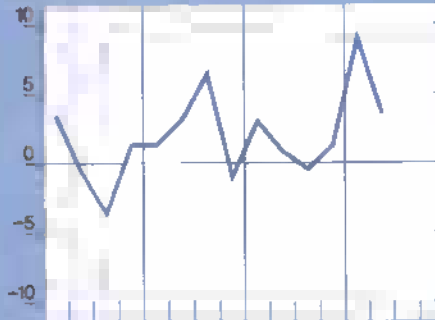
Percent change

Retail cost of food<sup>1</sup>

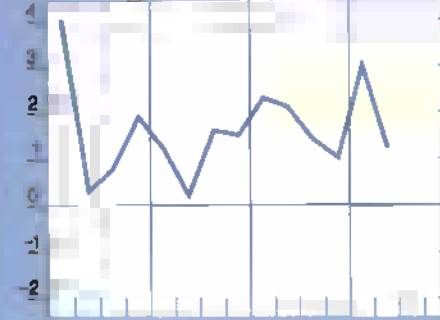
Percent change

Farm value of food<sup>1</sup>

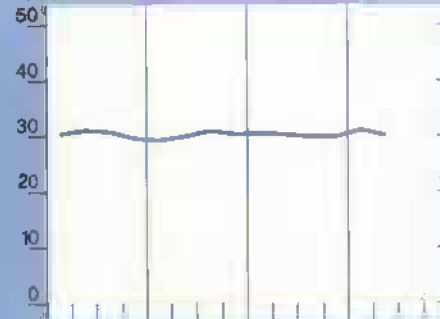
Percent change

Farm-retail spread<sup>1</sup>

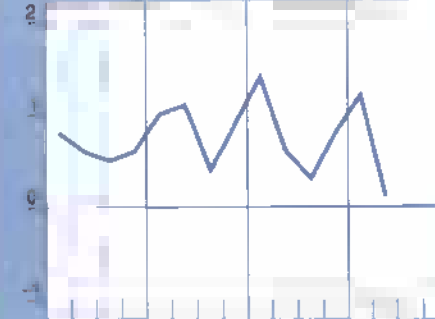
Percent change

Farm value/retail cost<sup>1</sup>

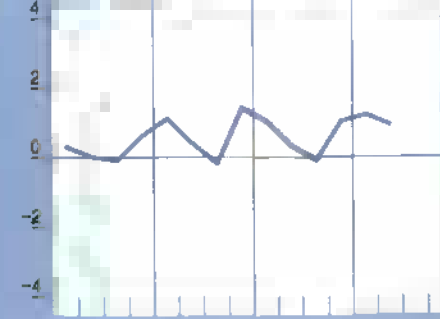
Percent

Food marketing cost index<sup>2</sup>

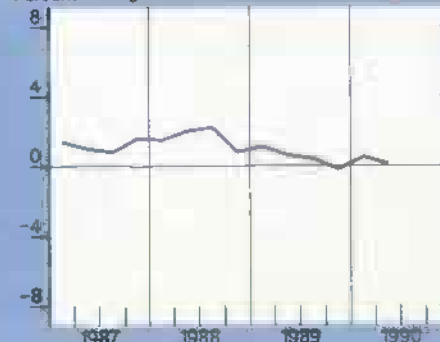
Percent change

Index of hourly earnings<sup>3,4</sup>

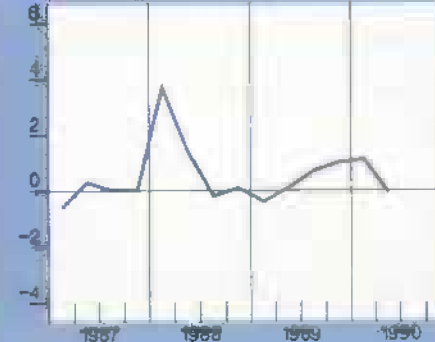
Percent change

Index of packaging prices<sup>4</sup>

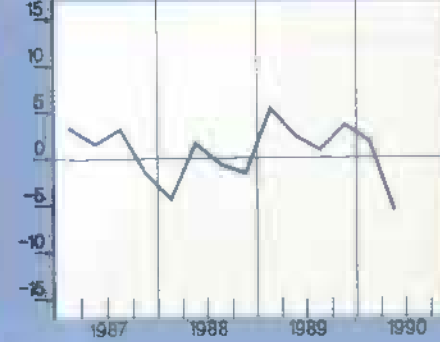
Percent change

Index of rail freight rates<sup>4</sup>

Percent change

Index of energy rates<sup>4</sup>

Percent change



<sup>o</sup>CPI unadjusted. <sup>1</sup>Index based on market basket of farm foods. <sup>2</sup>Index of changes in labor, packaging, transportation, energy, and other marketing costs in food retailing, wholesaling, and processing. <sup>3</sup>Component of food marketing cost index.

All series expressed as percentage change from preceding quarter, except for "Farm value/retail cost" chart.

## Food and Marketing

the CPI for all items averaged 4.9 percent higher, food prices contributed 0.2 of a percentage point to the overall rate of inflation.

Higher red meat prices in the first half were due to lower supplies of beef and pork. Beef production averaged 1 to 2 percent below a year earlier. Pork production slowed during the second quarter, and by June was 10 percent below a year ago. With lower production in 1990, per capita red meat consumption is expected to be down about 6 pounds from 1989.

Retail beef and pork prices are likely to decline slightly from their first-half highs. Nevertheless, consumer pork prices will average 10-14 percent above 1989, and beef prices will average 5-7 percent higher.

The poultry CPI in the first half of 1990 averaged slightly below a year earlier, due largely to a 9-percent increase in production. Poultry prices are expected to

average 1-3 percent below 1989 as output continues to increase.

### *Dairy & Juice Remain High*

Dairy prices in the first half of 1990 also were up sharply from a year earlier. Strong demand for processed dairy products and a drop in 1989 milk production caused the dairy CPI to climb sharply in the last quarter of 1989 and the first quarter of 1990.

Milk production increased in the first half of 1990 and retail fluid milk prices eased slightly after January. However, demand for processed dairy products, particularly cheese, remains strong and supplies remain tight. As a result, the CPI for dairy products is likely to be about flat for the rest of 1990.

The CPI for fresh fruit rose sharply following the late December freeze that damaged Florida and Texas citrus crops.

Higher prices for oranges and grapefruit helped push the CPI for fresh fruit 14.3 percent above first-half 1989.

The outlook for fresh fruit supplies for the rest of 1990 is relatively good. Although late frosts did limited damage to some mid-Atlantic apple and peach crops, supplies will be more than adequate to meet demand.

The late December freeze in Florida also affected the CPI for processed fruit. Damage to the orange crop pushed up prices for frozen and chilled orange juice.

Orange juice prices are an important component in the CPI for processed fruit and are the major reason that prices of processed fruit for the first half of 1990 averaged 8 percent above a year earlier. Prices for frozen and chilled orange juice are likely to remain near current levels for the rest of the year. *(Ralph Parleu (202) 786-1870) AO*

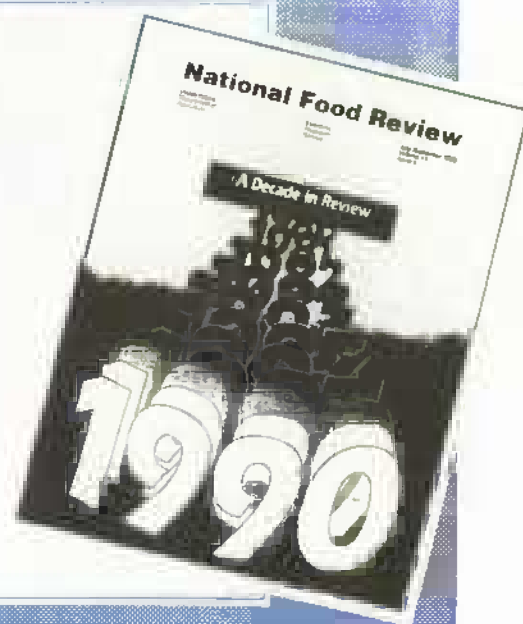
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## Sub-Saharan Reforms Kindle Some Hope

**M**arket-oriented reforms, better weather, and increased international support have brightened agricultural prospects for some Sub-Saharan nations. Can these improvements last? That depends on Africa's ability to surmount deeply rooted economic and social problems. Rapid population growth, war, international debt, slipping export prices, and climbing import prices are straining even the strongest reforming economies.

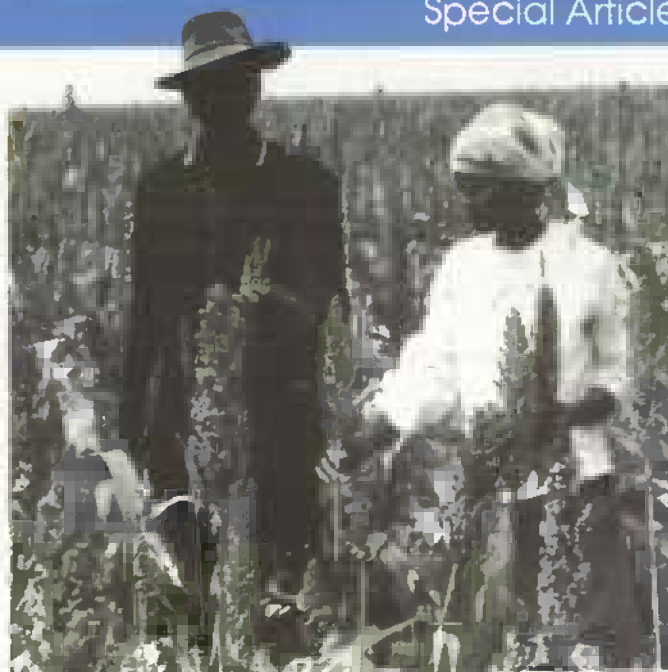
Sub-Saharan Africa is a poor region. Its 38 countries have a combined GNP of about \$150 billion, roughly the same as Belgium's. But the region's population is 500 million, about 50 times Belgium's. Sub-Saharan economies stagnated throughout the 1970's, and the slow growth continued into the 1980's. Between 1965 and 1987, annual per capita GNP grew just 0.6 percent, compared with 1.8 percent in South Asia, 2.1 percent in Latin America and the Caribbean, and 5.1 percent in East Asia.

Most recently, there have been signs of a turnaround for Sub-Saharan Africa as a whole. Growth in domestic output is improving. As a result, the Sub-Saharan share of world exports of some non-oil primary commodities has reversed its declining trend. But the gains have been uneven: many of the region's economies remain stagnant.

The overall improvements come at a time when many African countries have undertaken extensive structural reforms in order to increase economic efficiency, become more competitive in world markets, and improve their financial management. Yet not all of the reforming countries have turned around. And for agriculture, several years of favorable weather have played a large role in the turnaround.

### *Farming Drives The Region's Economies*

Agriculture is the major component of the Sub-Saharan economies, generally determining their overall performance. In 1987, agriculture contributed 33 percent of the region's domestic output. Yet between 1980 and 1987, annual growth of the agricultural sector measured only 1.2 percent, which partly explains the sluggish growth of the whole region. Since 1987, however, reforms combined with favorable weather have pulled up growth rates.



These economies face three basic problems: rapid population growth, volatile but declining export earnings, and depressed returns to investment. The combination has forced down spending on social services. As a result, school enrollments have declined and nutritional levels have deteriorated.

The region's population grows by 3 percent each year and has doubled since 1965, increasing the pressure on the social infrastructure, and limiting economic growth. If Sub-Saharan Africa's population growth rates had been similar to those of South Asia or Latin America since the early 1970's, per capita incomes might be 10 percent higher now.

Most countries in the region depend on exports of primary commodities, especially coffee, cocoa, tea, and cotton for a large part of their export earnings. Export earnings have fallen, reflecting both stagnant volumes and lower world prices. During 1980-87, the region's terms of trade (the ratio of export prices to import prices) slipped 16 percent.

Low returns on investment are also holding down economic growth. Growth in investment halted after the mid-1970's and has since declined, primarily reflecting low domestic savings rates. The domestic savings available to fund investments fell as declining terms of trade and production pushed down inflation-adjusted incomes and as large public sector deficits emerged. Returns on investment declined from 31 percent during 1961-73 to 2.5 percent in 1980-87.

With slow economic growth, the region will face a continuous struggle to provide basic necessities, and improved living standards will remain elusive.



## Special Article

## Population Growth, Weather, & War Limit Food Gains

Producing an adequate food supply in Sub-Saharan Africa has been difficult in the past decade. Declining average per capita food production and high annual variations in output have led to chronic food shortages, increased food imports, and serious dietary problems. During most of the 1980's, cereal production in the region grew less than 2 percent per year, below the 3-percent population growth rate.

Among the major factors limiting production potential in Africa are population pressure, adverse weather, and civil strife. These have led to high population densities in the rural areas and more rural-to-urban migration, both of which affect agricultural productivity and food demand.

Population pressures mean more than just more mouths to feed. Increased demand for food leads to increased cultivation and livestock grazing, which push down soil productivity. Lower productivity in turn often forces farmers to use even more environmentally fragile land, leading to further resource degradation. (See the Sahel article in the July 1989 AO).

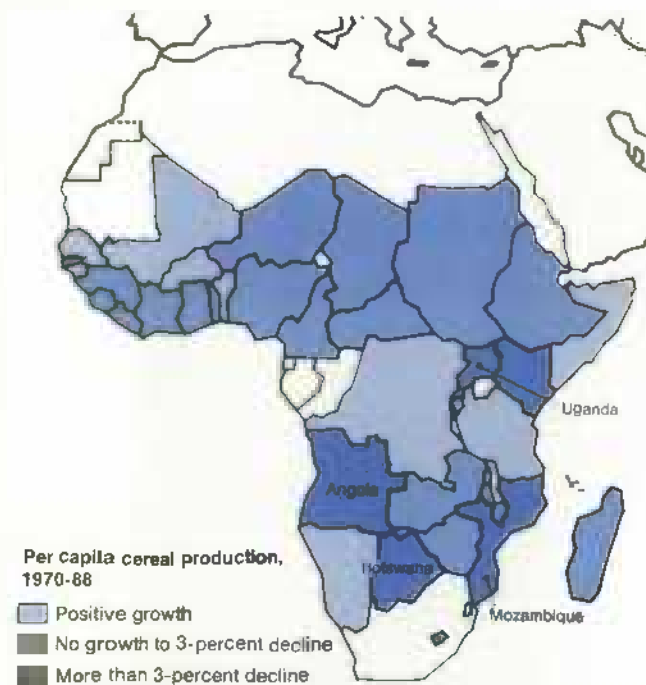
Much of the future population expansion is expected to come from countries with the lowest incomes. Ethiopia, Burkina Faso, Malawi, Mali, and Mozambique are among the 10 poorest countries in the world and are expected to face higher population growth in the 1990's than they did in the 1980's.

Moreover, the region's largely semi-arid climate poses special problems for agriculture. The cropping season is short, and the soil does not retain moisture. Rainfall variability limits the choice of crops and crop varieties. Frequent droughts, averaging one every 3 years, affect food production in the short term and livestock in the medium term. It takes 5-10 years of plentiful rainfall to rebuild a drought-stricken cattle herd.

High production variability tests these countries' administrative and physical capacity to handle shortages in a given year and surpluses the next, and their financial ability to adjust to gyrating world prices. Short-term crop losses due to disease or pests exacerbate production variation and have long-term negative effects on food production. Locusts are a persistent threat to this region's crops.

Internal conflict and border disputes also limit agricultural performance. This occurred during the 1980's in Sudan, Mozambique, Uganda, Chad, Ethiopia, and Angola.

Cereal Production Contracted the Most in Botswana, Uganda, Mozambique, and Angola



Countries not included in Sub-Saharan Africa are Morocco, Algeria, Tunisia, Libya, Egypt, and South Africa. Lesotho and Swaziland, which are surrounded by South Africa, are included in the definition of Sub-Saharan Africa. Insignificant cereal producers are omitted from the map.

## Trade Deficits & Debt Hamper Growth

Despite improved weather in the late 1980's and efforts aimed at policy reforms, Sub-Saharan Africa's performance in the world economy remains weak. This in part reflects long-term declines in commodity prices and growing financial constraints.

The region's trade deficit increased fivefold from 1980 to more than \$15 billion in 1982. While it slipped to less than \$1 billion in the mid-1980's, the deficit has increased since then to more than \$9 billion in 1989.

And the trade deficit relative to export earnings is high compared with other developing countries. In 1989, for example, the deficit in Sub-Saharan Africa equaled 28 percent of export earnings, compared with 7 percent in Latin America and 6 percent in the 15 most heavily indebted countries.

The surge in deficits stems from long-term deterioration in the terms of trade and wide fluctuations in export volume, especially in countries dependent on agricultural exports. Aggregate figures, however, conceal considerable variations between countries.

The country hardest hit in terms of absolute trade deficit size and growth was Nigeria, an oil exporter. In 1980, Nigeria had a current account surplus of more than \$5 billion that turned into a deficit of more than \$1 billion in 1988. Conversely, Zimbabwe, with its diversified export base, moved from a deficit position in 1980 to a small surplus by 1988.

A second financial constraint has been the rise in international debt throughout the region. Debt rose from \$56 billion in 1980 to an estimated \$140 billion in 1989. Although relatively small when compared with Brazil's \$111 billion debt, the Sub-Saharan region's debt is large relative to the size of its economies and has placed severe constraints on growth. While in 1980 the region owed debt payments that equaled just 8 percent of its export earnings, by 1988, debt payments owed were equal to 24 percent of export earnings.

### Agriculture Dominates Export Picture

With the slowing of external credit and financial aid during the late 1980's, exports have become the principal source of financing imports. The region depends on imports of food, energy, and machinery. Since 1973, total export volume has declined on average almost 1 percent annually. Agricultural exports in particular have performed poorly, declining more than 3 percent per year.

Consequently, Sub-Saharan Africa's share of the world export market has fallen. Between 1970 and 1984, the region's market shares for coffee, cocoa, and cotton fell 13, 33, and 29 percent.

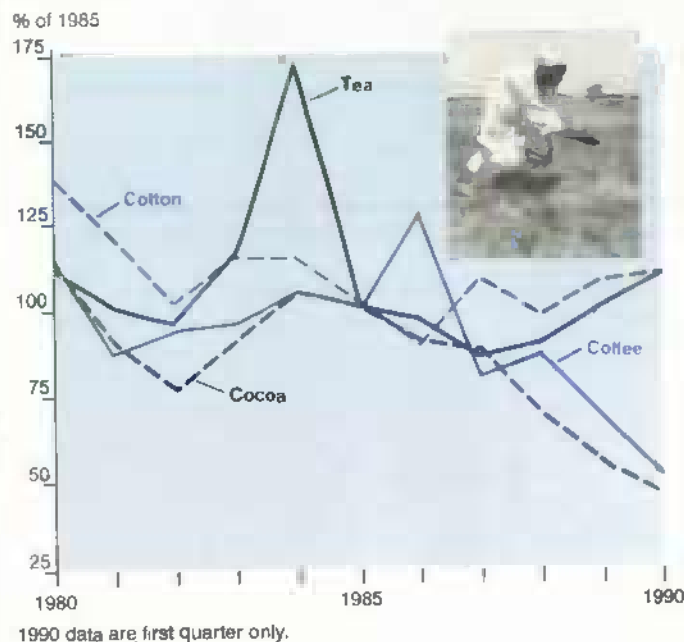
During the middle and late 1980's, export earnings continued to be lackluster, declining at first and then recovering, to the extent that by 1988, earnings neared their 1980 level of \$50 billion. The reason for the overall stagnation was a reduced volume of exports at lower prices, while the limited recovery can be attributed to a short-lived turnaround in cocoa and coffee prices.

Cocoa and coffee account for 40 percent of the region's agricultural exports. Prices for both jumped sharply between 1985 and 1986. But in 1987 coffee prices dropped back more than 50 percent, and in 1989 coffee and cocoa prices fell 50 and 35 percent.

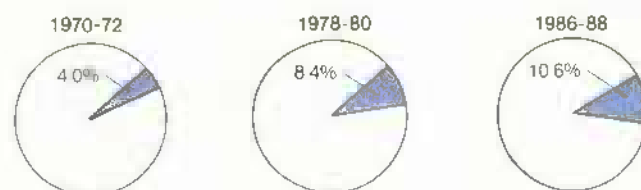
The 1989 coffee price decline was due to the suspension of the International Coffee Agreement and subsequent disposal of stocks by Brazil, Colombia, Indonesia, and Mexico. Cocoa prices fell after members of the International Cocoa Organization failed to agree on measures to support prices.

In the near term, prices of these two commodities are expected to remain low, reflecting excess supplies and slow growth in demand. The outlook for cotton, though, is brighter (see the Field Crops Overview in this issue).

### Prices for Sub-Sahara's Key Ag Exports Have Dropped Since 1980



### Food Aid Share Has More Than Doubled in the Last Two Decades



Food aid as a share of food consumption in Sub-Saharan Africa.

### Food-Aid Share Is Growing...

Because of stagnant export earnings, imports declined from approximately \$44 billion in 1980 to \$37 billion in 1988. Food accounts for about 10 percent of total imports in Sub-Saharan countries and consists mainly of wheat, rice, and corn. Grain imports peaked at about 11 million tons in 1984 to offset a drought-induced production drop that year.

Wheat dominates the import picture, accounting for about half of grain imports. Rice accounts for about a third, and the remainder is mostly corn.

## Special Article

Imported wheat and rice have become more popular than locally grown grains such as millet and sorghum, especially among urbanites. Because domestic wheat and rice production have not kept pace with demand, imports have risen since the late 1970's. **Corn** is usually imported to offset annual variations in domestic production.

Currently, domestic food output covers about 87 percent of consumption. The reason for this apparently high degree of self-sufficiency is due less to bountiful production than to financial constraints that limit the region's commercial import capacity.

Because of the constraints on import capacity, food aid increased during the 1980's to help offset production shortfalls. The share of food aid in total consumption rose from 4 percent in 1970-72 to over 10 percent in 1986-88. However, because domestic production remains the largest contributor to consumption, and because storage facilities are limited, consumption still moves in tandem with domestic output.

### *...But Diets Don't Meet FAO Standards*

It is estimated that more than 100 million people, 25 percent of the Sub-Saharan population, consume less than 80 percent of the daily caloric intake recommended by the U.N. Food and Agriculture Organization (FAO). Inadequate consumption is prevalent in areas with deficient rainfall (Sahel region), civil wars (Ethiopia and Mozambique), and poor infrastructure (Uganda, Zaire, and most of the Sahel).

During 1980-88, per capita consumption in the region fell more than 1 percent per year, the most severe decline in the developing world. In Latin America, per capita consumption fell only 0.3 percent per year, while Asia experienced a marginal increase, and per capita consumption in North Africa actually grew more than 1 percent annually.

The World Bank has projected Sub-Saharan Africa's food needs for 1990-2020 assuming an average daily caloric intake equal to 85 percent of the nutritional requirement. The gap between these consumption needs and the regional food supply was then calculated under three scenarios:

- current trends continue with production growing 2 percent annually and population rising 3.3 percent annually,
- production growth increases to 4 percent per year while population growth remains at 3.3 percent, and
- production increases 4 percent annually while population growth slows to 2.75 percent per year.

### The Food Gap Narrows Only If Population Growth Slows

Scenarios	1990	2000	2010	2020
<b>Case 1 (current rates):</b>				
Population (mil.)	500	700	1,010	1,500
Production (mil. tons)	90	110	135	165
Food requirement (mil. tons)	100	160	250	410
Food gap (mil. tons)	10	50	115	245
<b>Case 2:</b>				
Population	500	700	1,010	1,500
Production	90	135	200	300
Food requirement	100	160	250	410
Food gap	10	25	50	110
<b>Case 3:</b>				
Population	500	680	890	1,110
Production	90	135	200	300
Food requirement	100	150	220	305
Food gap	10	15	20	5

Case 1: Population growth 3.3 percent, production growth 2 percent.  
Case 2: Population growth 3.3 percent, production growth 4 percent.  
Case 3: Population growth 2.75 percent, production growth 4 percent.  
Source: The World Bank

### Cereal Production Growth Rate Slipped In Sub-Saharan Africa

Region	1970-79	1980-88
Percent per year		
Sub-Saharan Africa	2.69	1.86
North Africa	0.79	3.22
Asia	2.97	2.00
Latin America	3.47	0.62

With current trends maintained, the gap between consumption needs and output rises from 10 million tons in 1990 to 245 million by 2020, a nearly 25-fold increase. In the second scenario, in which production improves, the food gap increases 11-fold by 2020 to 110 million tons. In the third scenario, in which production rises and population growth slows, the food gap peaks in 2010 at 20 million tons, and drops to 5 million by 2020.

### *New Farming Technologies Are Needed*

A crucial variable in the years ahead will be the availability of adequate arable land. FAO researchers compared the potential food supply capacity—determined by soil, climate, and farm technologies—to actual and projected population. Of the 38



Sub-Saharan countries, 13 do not have enough arable land to meet the needs of their growing populations under subsistence farming practices. The countries are: Botswana, Burundi, Ethiopia, Kenya, Lesotho, Malawi, Mauritania, Niger, Nigeria, Rwanda, Senegal, Somalia, and Uganda.

These nations account for one-third of the region's land area and half of its population. However, several have vast amounts of land that is underutilized because of rudimentary farming practices and government policies that tax farmers.

Throughout Sub-Saharan Africa, capital inputs are seldom applied to food production. Fertilizer and tractor use is the lowest in the world and, for the most part, uneconomical. That's because grower prices are often held down by government policies. Per-hectare fertilizer use averages about 5.6 kilograms, compared with 26 and 48 kilograms in India and Mexico. Crop varieties are mostly traditional and, although adapted to the harsh climate, yields are low even under favorable growing conditions.

Consequently, any improvement in technology should substantially affect productivity. For example, in some areas of Zimbabwe, Zambia, and Kenya, use of hybrid corn has increased yields to 5-7 tons per hectare, more than four times the region's average.

But such measures might not be sufficient in all countries, according to the FAO. Arable land is in such short supply in several Sub-Saharan countries—including Burundi, Lesotho, Mauritania, Rwanda, and Somalia—that they could not achieve food self-sufficiency by the turn of the century even if their technologies were to match those now used in Asia and Latin America.

## Reforms Needed At Many Levels

Government policies that offer more incentives to growers would boost output. A realistic pricing policy, however, is only one essential element in a comprehensive government package designed to increase output. Further government actions on wage rates, interest rates, population control, trade, and food aid are needed to ensure agriculture's growth.

Since 1980, more than half the Sub-Saharan countries have adopted macroeconomic reform programs in response to trade, debt, and development problems. Both the World Bank and the International Monetary Fund (IMF) have supported these efforts through loan programs. More than half the World Bank loans have focused on policy reform in the areas of public finance, public enterprises, agriculture, and foreign exchange markets.

The IMF programs emphasize lowering government expenditures and revaluing currencies. Because of these programs,

many countries have begun to devalue their currencies, raise producer prices, and liberalize marketing and pricing systems. Nominal currency devaluations and market liberalization have led to rising real agricultural prices in local markets.

Sub-Saharan Africa's financial and physical resources are scarce. Accelerating food production will require simultaneous changes in the contributors to economic growth, which include improving the investment climate, enhancing institutional efficiency, and developing market-oriented incentives.

More appropriate policy signals alone could pave the way for improvement in other areas. For example, providing opportunities for the private sector in domestic and external marketing schemes increases efficiency, cuts regional trade barriers, increases market access, and reduces costs. Moreover, these schemes encourage joint research efforts to control animal and plant diseases.

## External Environment Is Key

Current structural adjustment policies that have been adopted by many Sub-Saharan African countries emphasize changes in producer, consumer, and input prices. Response has been mixed so far. Even under the reforms, governments in most countries of the region continue to control many agricultural prices, marketing, and farm input supplies.

Short-term response to the policies was expected to be slow because of the structural rigidities inherent in the economies. Nonetheless, the major problem has been the adverse external environment facing these countries. Terms of trade and export prices are down from 1980, and the rate of decline has accelerated since 1985.

Countries undergoing reform have benefited from increased donor support. As a result, some have been able to reduce financial pressures and increase imports and investment. The rising output experienced by some of these countries, including Ghana, Madagascar, and Senegal, indicates that Sub-Saharan countries can achieve higher rates of growth.

However, additional measures such as adopting improved technologies, boosting input-delivery systems, and increasing the use of extension services will be required to achieve sustainable agricultural growth. [Shahla Shapouri and Stacy Rosen (202) 786-1680] AO

# Statistical Indicators

## Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1989		1990					1991	
	I	Annual	I	II	III F	IV F	Annual F	IF	Annual F
Prices received by farmers (1977=100)	149	148	152	152	143	139	146	—	—
Livestock & products	159	160	171	172	161	156	163	—	—
Crops	139	134	132	132	125	122	127	—	—
Prices paid by farmers, (1977=100)									
Production items	166	165	168	169	—	—	169	—	—
Commodities & services, interest, taxes, & wages	175	177	180	183	—	—	182	—	—
Cash receipts (\$ bil.) 1/	155	158	171	169	171	146	162-168	—	—
Livestock (\$ bil.)	82	84	94	84	82	81	84-87	—	—
Crops (\$ bil.)	73	74	76	85	89	66	77-81	—	—
Market basket (1982-84=100)									
Retail cost	122	125	133	132	—	—	—	—	—
Farm value	106	107	118	114	—	—	—	—	—
Spread	131	134	141	142	—	—	—	—	—
Farm value/retail cost (%)	31	30	31	30	—	—	—	—	—
Retail prices (1982-84=100)									
Food	123	125	131	132	—	—	—	—	—
At home	122	124	132	131	—	—	—	—	—
Away from home	125	127	131	133	—	—	—	—	—
Agricultural exports (\$ bil.) 2/	10.9	39.7	11.3	9.7	8.5	—	40.0	—	—
Agricultural imports (\$ bil.) 2/	5.8	21.5	6.1	5.7	4.8	—	22.0	—	—
Commercial production									
Red meat (mil. lb.)	9,594	39,418	9,581	9,542	9,634	10,000	38,883	9,565	39,468
Poultry (mil. lb.)	5,070	22,039	5,611	5,950	6,015	6,035	23,611	5,945	24,810
Eggs (mil. doz.)	1,388.8	5,587	1,390	1,413	1,410	1,440	5,653	1,415	5,715
Milk (bil. lb.)	36.4	144.3	36.9	38.5	36.4	35.8	147.7	37.8	149.6
Consumption, per capita									
Red meat and poultry (lb.)	52.9	220.5	53.4	54.3	55.1	57.6	220.3	54.5	226.5
Corn beginning stocks (mil. bu.) 3/	7,071.6	4,259.1	7,079.2	4,813.0	2,839.4	—	1,930.4	—	—
Corn use (mil. bu.) 3/	1,868.2	7,260.2	2,267.0	1,973.8	—	—	—	—	—
Prices 4/									
Choice steers—Omaha (\$/cwt)	73.67	72.52	77.20	77.52	72-76	73-79	73-79	75-81	75-81
Barrows & gilts—7 mths. (\$/cwt)	40.78	44.03	49.45	59.01	57-61	48-54	53-56	47-53	49-55
Broilers—12-city (cts./lb.)	59.4	59.0	56.5	56.6	55-59	48-54	54-57	50-56	51-57
Eggs—NY gr. A large (cts./doz.)	78.4	81.9	87.8	74.6	66-70	64-70	73-78	64-70	66-72
Milk—all at plant (\$/cwt)	13.13	13.56	14.87	13.57	13.90-14.50	14.10-15.10	14.05-14.45	13-14	11.25-12.25
Wheat—KC HRW ordinary (\$/bu.)	4.34	4.35	4.16	—	—	—	—	—	—
Corn—Chicago (\$/bu.)	2.72	2.55	2.42	—	—	—	—	—	—
Soybeans—Chicago (\$/bu.)	7.63	6.70	5.70	—	—	—	—	—	—
Cotton—Avg. spot mkt. (cts./lb.)	56.2	63.7	65.1	—	—	—	—	—	—
	1983	1984	1985	1986	1987	1988	1989	1990 F	1991 F
Gross cash income (\$ bil.)	150.4	155.3	156.9	152.5	162.0	171.6	175	176-183	—
Gross cash expenses (\$ bil.)	113.5	116.6	110.2	100.7	107.5	114.4	121	121-124	—
Net cash income (\$ bil.)	36.9	38.7	46.7	51.8	54.5	57.2	54	55-59	—
Net farm income (\$ bil.)	12.7	32.2	32.4	38.0	43.6	42.7	49	47-51	—
Farm real estate values 5/									
Nominal (\$ per acre)	788	801	713	640	599	632	667	693	714-721
Real (1977 \$)	472	459	395	346	317	322	325	322	317-320

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Dec.-Feb. first quarter; Mar.-May second quarter; June-Aug. third quarter; Sept.-Nov. fourth quarter; Sept.-Aug. annual. Use includes exports & domestic disappearance. 4/ Simple averages. 5/ 1990-91 values as of January 1. 1986-89 values as of February 1. 1982-85 values as of April 1. F = forecast, — = not available.

## U.S. and Foreign Economic Data

Table 2.—U.S. Gross National Product &amp; Related Data

	Annual			1989			1990	
	1987 R	1988 R	1989 R	II R	III R	IV R	I R	II P
\$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	4,515.6	4,873.7	5,200.8	5,174.0	5,238.6	5,289.3	5,375.4	5,451.6
Personal consumption expenditures	3,009.4	3,238.2	3,450.1	3,425.9	3,484.3	3,518.5	3,588.1	3,619.5
Durable goods	423.4	457.5	474.6	473.6	487.1	471.2	482.1	479.6
Nondurable goods	1,001.3	1,060.0	1,130.0	1,127.1	1,137.3	1,148.8	1,174.7	1,171.5
Clothing & shoes	178.4	191.1	204.6	203.4	208.9	208.7	212.9	211.5
Food & beverages	530.7	562.6	595.3	592.5	597.6	602.2	616.4	618.5
Services	1,584.7	1,720.7	1,845.5	1,825.1	1,859.8	1,898.5	1,921.3	1,988.4
Gross private domestic investment	699.5	747.1	771.2	776.7	775.8	762.7	747.2	772.4
Fixed investment	671.2	720.8	742.9	744.0	746.9	737.7	758.9	741.2
Change in business inventories	28.3	26.2	28.3	32.7	28.9	25.0	-11.8	31.2
Net exports of goods & services	-114.7	-74.1	-48.1	-51.3	-49.3	-35.3	-30.0	-27.0
Government purchases of goods & services	921.4	962.5	1,025.6	1,022.7	1,027.8	1,043.3	1,070.1	1,086.7
1982 \$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	3,845.3	4,016.9	4,117.7	4,112.2	4,129.7	4,133.2	4,150.6	4,163.2
Personal consumption expenditures	2,515.8	2,606.5	2,656.8	2,645.3	2,675.3	2,669.9	2,677.3	2,675.2
Durable goods	391.4	418.2	429.0	428.2	438.1	423.1	437.6	427.7
Nondurable goods	892.7	909.4	919.9	914.6	923.4	923.0	915.6	905.4
Clothing & shoes	160.7	165.0	172.7	170.8	176.6	175.1	174.2	170.3
Food & beverages	424.0	462.2	482.9	481.9	483.0	460.3	487.4	455.7
Services	1,231.6	1,278.9	1,309.0	1,302.5	1,313.8	1,323.9	1,324.2	1,342.2
Gross private domestic investment	669.0	705.7	716.9	719.1	722.3	709.1	700.7	714.3
Fixed investment	648.2	682.1	693.1	693.6	697.7	690.2	702.9	688.1
Change in business inventories	22.8	23.6	23.8	25.5	24.6	18.9	-2.2	26.2
Net exports of goods & services	-118.5	-75.9	-54.1	-53.3	-64.1	-47.9	-35.4	-48.5
Government purchases of goods & services	779.1	780.5	798.1	801.0	796.2	802.2	807.9	820.2
GNP implicit price deflator (% change)	3.2	3.3	4.1	3.9	3.2	3.8	4.8	4.4
Disposable personal income (\$ bil.)	3,194.7	3,479.2	3,725.5	3,697.3	3,743.4	3,799.8	3,887.7	3,929.6
Disposable per. income (1982 \$ bil.)	2,670.7	2,800.5	2,869.0	2,854.9	2,874.3	2,883.2	2,900.9	2,904.4
Per capita disposable per. income (\$)	13,094	14,123	14,973	14,883	15,026	15,210	15,527	15,655
Per capita dis. per. income (1982 \$)	10,946	11,368	11,531	11,492	11,538	11,641	11,586	11,671
U.S. population, total, incl. military abroad (mil.)	243.9	246.4	248.8	248.4	249.1	249.8	250.4	251.0
Civilian population (mil.)	241.7	244.1	246.6	246.2	246.9	247.6	248.2	248.5
	Annual			1989		1990		
	1987	1988	1989	June	Mar	Apr	May	June
Monthly data seasonally adjusted								
Industrial production (1987=100)	100.0	105.4	108.1	108.4	108.9	108.7	109.3	109.8
Leading economic indicators (1982=100)	140.1	142.8	144.9	144.0	145.3	145.0	146.0	146.0
Civilian employment (mil. persons)	112.4	115.0	117.3	117.5	118.3	118.1	118.4	118.4
Civilian unemployment rate (%)	6.1	5.4	5.2	5.2	5.1	5.3	5.3	5.1
Personal income (\$ bil. annual rate)	3,766.4	4,070.8	4,384.3	4,372.5	4,594.7	4,607.7	4,622.9	4,639.5
Money stock—M2 (daily avg.) (\$ bil.) 1/	2,913.2	3,072.4	3,221.0	3,101.6	3,266.9	3,272.1	3,270.3	3,270.3
Three-month Treasury bill rate (%)	5.82	6.89	8.12	8.22	7.87	7.78	7.78	7.74
AAA corporate bond yield (Moody's) (%)	9.38	9.71	9.26	9.10	9.37	9.46	9.47	9.26
Housing starts (1,000) 2/	1,621	1,488	1,376	1,414	1,307	1,216	1,205	1,177
Auto sales at retail, total (mil.)	10.3	10.6	9.9	9.8	9.5	9.6	9.3	9.9
Business inventory/sales ratio	1.51	1.49	1.50	1.50	1.47	1.49	1.48	—
Sales of all retail stores (\$ bil.)	128.5	137.5	144.5	144.4	149.3	147.9	147.0	147.8
Nondurable goods stores (\$ bil.)	80.5	85.2	90.7	90.6	94.6	94.3	93.6	94.5
Food stores (\$ bil.)	25.8	27.2	29.1	29.1	30.4	30.6	30.1	30.1
Eating & drinking places (\$ bil.)	12.8	13.8	14.5	14.4	15.2	15.1	15.0	15.0
Apparel & accessory stores (\$ bil.)	6.6	7.1	7.6	7.6	7.9	7.8	7.9	8.0

1/ Annual data as of December of the year listed. 2/ Private, including farm. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 786-3313.



Table 3.—Foreign Economic Growth, Inflation, &amp; Export Earnings

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 F	1991 F	Average 1980-89
Annual percent change												
World, less U.S.												
Real GDP	1.5	1.3	2.4	3.7	3.3	3.1	3.3	4.1	2.5	2.7	3.3	2.8
Consumer prices	15.6	14.6	15.6	12.4	12.1	8.8	10.9	17.8	33.4	39.0	11.1	15.7
Merch. exports	-2.7	-6.7	-2.7	5.1	2.4	11.0	18.7	12.9	6.9	10.3	10.1	8.5
Developed less U.S.												
Real GDP	-1.1	0.8	2.2	3.9	3.4	2.7	3.4	4.2	3.6	3.2	3.2	2.8
Consumer prices	10.0	8.2	5.9	5.0	4.4	2.7	2.6	3.1	4.3	4.0	3.3	5.7
Merch. exports	-3.2	-4.4	-0.5	6.9	4.6	19.4	17.7	12.4	5.9	12.0	10.6	7.6
Developing												
Real GDP	2.0	2.1	2.2	4.0	3.9	4.0	3.8	4.1	4.1	3.3	5.3	3.5
Consumer prices	28.4	25.3	32.7	38.6	40.4	27.0	35.4	57.3	78.8	71.0	27.4	39.2
Merch. exports	-1.8	-10.4	-6.5	2.9	-1.7	-5.7	21.4	14.0	9.4	8.6	10.6	4.7
Asia, incl. China												
Real GDP	6.1	5.6	8.0	8.3	6.8	6.8	8.0	9.0	5.1	5.4	5.7	7.0
Consumer prices	9.3	6.4	6.6	6.9	7.3	5.6	7.4	11.8	10.1	7.4	6.0	8.4
Merch. exports	7.6	-0.5	4.6	14.6	-0.9	8.8	30.1	23.2	11.4	9.3	12.5	12.6
Latin America												
Real GDP	-0.4	-1.1	-2.8	3.4	3.5	4.0	2.9	0.3	1.0	0.7	4.4	1.7
Consumer prices	60.1	67.1	108.7	133.5	145.1	82.1	116.1	218.2	347.4	312.2	69.4	133.3
Merch. exports	6.5	-10.6	-1.0	6.7	-7.5	-14.6	9.1	16.9	9.5	6.7	7.4	4.5
Africa												
Real GDP	-1.9	2.0	-1.1	0.8	4.1	2.3	1.1	2.3	2.8	3.0	3.8	1.9
Consumer prices	23.4	13.1	17.9	20.8	13.2	12.5	13.1	19.2	22.1	13.4	9.7	17.0
Merch. exports	-19.7	-9.1	-8.0	3.4	0.0	-19.7	20.9	-8.7	15.4	5.1	7.7	0.9
Middle East												
Real GDP	2.7	1.3	1.7	-0.9	-0.2	-0.6	0.0	3.8	3.9	3.2	3.4	1.2
Consumer prices	16.8	12.9	11.9	14.3	17.1	15.0	19.3	19.8	14.8	14.2	13.1	15.9
Merch. exports	-3.8	-21.1	-22.2	-10.5	-6.8	-19.2	20.5	-2.7	28.6	6.5	7.7	-1.5
Eastern Europe, incl. USSR												
Real GDP	0.6	2.0	3.0	1.8	1.8	3.0	1.3	1.8	-3.5	-4.9	-2.6	1.5
Consumer prices	6.6	12.9	5.4	4.2	8.0	7.4	9.1	15.7	70.3	117.5	15.9	15.3
Merch. exports	9.1	1.3	3.7	1.8	0.2	6.2	11.2	0.3	-1.0	4.2	4.1	5.0

F = forecast.

Information contact: Alberto Jerardo, (202) 786-1705.

## Farm Prices

Table 4.—Indexes of Prices Received &amp; Paid by Farmers, U.S. Average

	Annual			1989		1990					
	1987	1988	1989	July	Feb	Mar	Apr	May	June R	July P	
1977=100											
Prices received											
All farm products	126	138	147	147	150	144	151	154	151	151	
All crops	106	127	134	137	139	116	131	134	129	131	
Food grains	103	138	156	153	145	143	142	139	127	117	
Feed grains & hay	85	120	128	126	120	123	129	136	133	130	
Feed grains	81	117	123	122	115	117	123	128	129	127	
Cotton	99	95	98	98	100	106	107	108	103	105	
Tobacco	129	138	136	142	144	144	147	147	147	147	
Oil-bearing crops	79	108	102	105	90	91	93	95	94	94	
Fruit, all	181	184	190	182	172	179	196	204	191	208	
Fresh market 1/	194	196	200	190	171	185	207	216	202	219	
Commercial vegetables	144	144	156	166	225	145	119	124	118	142	
Fresh market	147	137	145	166	210	132	106	113	104	135	
Potatoes & dry beans	126	124	187	261	192	210	235	235	223	222	
Livestock & products	146	150	160	157	169	171	170	173	173	171	
Meat animals	163	168	174	174	188	190	193	199	197	194	
Dairy products	129	126	139	130	148	141	138	139	142	145	
Poultry & eggs	107	118	138	138	131	145	132	126	127	125	
Prices paid											
Commodities & services											
Interest, taxes, & wage rates	162	169	177	178	—	—	183	—	—	184	
Production items	147	157	165	168	—	—	169	—	—	170	
Feed	103	128	135	133	—	—	128	—	—	130	
Feeder livestock	179	192	194	193	—	—	213	—	—	214	
Seed	148	150	165	170	—	—	163	—	—	163	
Fertilizer	118	130	137	141	—	—	130	—	—	130	
Agricultural chemicals	124	128	132	133	—	—	141	—	—	141	
Fuels & energy	161	166	181	187	—	—	187	—	—	185	
Farm & motor supplies	145	148	155	155	—	—	156	—	—	156	
Autos & trucks	208	215	223	225	—	—	234	—	—	233	
Tractors & self-propelled machinery	174	181	193	192	—	—	201	—	—	201	
Other machinery	185	197	208	209	—	—	217	—	—	217	
Building & fencing	137	138	141	141	—	—	144	—	—	143	
Farm services & cash rent	147	148	158	158	—	—	163	—	—	163	
Int. payable per acre on farm real estate debt	189	182	177	177	—	—	178	—	—	178	
Taxes payable per acre on farm real estate	144	148	152	152	—	—	156	—	—	156	
Wage rates (seasonally adjusted)	166	171	185	189	—	—	193	—	—	183	
Production items, interest, taxes, & wage rates	151	160	167	168	—	—	171	—	—	171	
Ratio, prices received to prices paid (%) 2/	78	82	83	83	84	83	83	84	83	82	
Prices received (1910-14=100)	578	633	673	673	693	688	688	703	691	691	
Prices paid, etc. (parity index) (1910-14=100)	1,110	1,167	1,220	1,227	—	—	1,260	—	—	1,265	
Parity ratio (1910-14=100) (%) 2/	51	64	55	55	—	—	58	—	—	58	

1/ Fresh market for noncitrus; fresh market & processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities & services, interest, taxes, & wage rates. Ratio uses the most recent prices paid index. Prices paid data are quarterly & will be published in January, April, July, & October. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 786-3313.

Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1989						
	1987	1988	1989 P	July	Feb	Mar	Apr	May	June R	July P
<b>CROPS</b>										
All wheat (\$/bu.)	2.57	3.72	3.72	3.78	3.56	3.49	3.49	3.40	3.08	2.81
Rice, rough (\$/cwt)	7.27	6.83	7.25-7.50	7.45	7.52	7.50	7.31	7.21	7.08	7.10
Corn (\$/bu.)	1.94	2.54	2.35-2.40	2.47	2.32	2.37	2.51	2.82	2.63	2.61
Sorghum (\$/cwt)	3.04	4.05	3.75-3.84	4.00	3.54	3.70	3.99	4.04	4.29	4.26
All hay, baled (\$/ton)	65.10	85.20	88.00	84.40	85.00	88.50	91.00	101.00	87.80	85.00
Soybeans (\$/bu.)	5.88	7.42	5.70	6.83	5.57	5.65	5.82	5.98	5.88	5.88
Cotton, upland (cts./lb.)	64.3	56.6	6/ 65.6	59.5	60.6	64.1	65.0	65.4	62.3	63.7
Potatoes (\$/cwt)	4.38	6.02	6.85	10.90	7.40	8.30	9.53	9.52	8.84	8.88
Lettuce (\$/cwt) 2/	14.80	14.70	12.60	16.20	7.15	7.88	8.32	8.50	8.04	15.50
Tomatoes fresh (\$/cwt) 2/	25.90	28.90	32.90	26.20	97.60	32.80	14.60	22.00	21.90	27.60
Onions (\$/cwt)	12.50	9.75	11.60	16.90	15.70	19.60	19.40	13.60	11.20	9.38
Dry edible beans (\$/cwt)	16.50	29.80	28.70	31.40	32.70	32.10	32.60	32.90	33.70	32.40
Apples for fresh use (cts./lb.)	12.7	17.4	13.4	11.5	13.0	12.9	13.3	13.1	12.6	16.4
Pears for fresh use (\$/ton)	227.00	358.00	332.00	480.00	389.0	420.00	415.00	469.00	483.00	430.00
Oranges, all uses (\$/box) 3/	5.40	7.18	6.89	6.52	4.93	5.33	6.60	7.03	5.84	5.19
Grapefruit, all uses (\$/box) 3/	4.96	5.43	4.49	5.57	4.88	6.23	8.19	9.06	10.08	12.32
<b>LIVESTOCK</b>										
Beef cattle (\$/cwt)	61.37	66.80	69.68	68.00	74.60	74.20	74.60	74.40	74.40	72.40
Calves (\$/cwt)	78.10	89.85	91.64	94.60	96.00	99.10	100.40	101.00	98.10	97.00
Hogs (\$/cwt)	50.79	42.53	43.24	45.90	48.20	51.30	53.80	61.20	60.10	60.10
Lambs (\$/cwt)	77.92	69.50	67.33	68.60	59.80	66.00	62.90	59.80	55.40	55.10
All milk, sold to plants (\$/cwt)	12.54	12.26	13.56	12.80	14.40	13.70	13.40	13.50	13.80	14.10
Milk, manuf. grade (\$/cwt)	11.37	11.15	12.38	11.60	12.50	12.20	12.40	12.70	13.10	13.20
Broilers (cts./lb.)	28.3	34.0	36.0	38.7	33.5	36.4	33.2	35.2	34.1	36.9
Eggs (cts./doz.) 4/	53.1	53.3	70.0	64.9	70.4	79.3	71.4	60.2	62.7	55.6
Turkeys (cts./lb.)	34.3	37.3	40.0	41.2	33.7	37.2	37.0	38.2	38.2	38.4
Wool (cts./lb.) 5/	91.7	138.0	122.4	121.0	70.6	83.4	92.6	99.5	93.4	80.4

1/ Season average price by crop year for crops. Calendar year average of monthly prices for livestock. 2/ Excludes Hawaii. 3/ Equivalent on-tree returns.  
 4/ Average of all eggs sold by producers including hatching eggs & eggs sold at retail. 5/ Average local market price, excluding incentive payments. 6/ Weighted average of first 10 months of the season - not a projection for 1989/90. P = preliminary. R = revised.

Information contact: Ann Duncan (202) 786-3313.

## Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Not Seasonally Adjusted)

	Annual	1989				1990				
	1989	June	Nov	Dec	Jan	Feb	Mar	Apr	May	June
	1982-84=100									
Consumer Price Index, all items	124.0	124.1	125.9	126.1	127.4	128.0	128.7	128.9	129.2	129.9
Consumer Price Index, less food	123.7	123.9	125.6	125.8	126.7	127.3	128.1	128.4	128.7	129.4
All food	125.1	125.0	126.9	127.4	130.4	131.3	131.5	131.3	131.3	132.0
Food away from home	127.4	127.1	129.5	129.0	130.3	131.0	131.8	132.5	133.0	133.4
Food at home	124.2	124.3	125.8	126.5	131.0	132.1	131.9	131.1	130.9	131.7
Meats 1/	116.7	116.1	119.3	120.0	122.3	123.5	124.0	125.2	126.6	129.6
Beef & veal	119.3	119.3	121.3	122.1	124.5	126.2	126.6	128.0	128.5	129.0
Pork	113.2	111.8	116.8	117.2	119.7	119.7	121.0	121.6	125.6	132.9
Poultry	132.7	140.1	126.8	127.8	128.6	130.5	134.8	132.1	132.3	134.0
Fish	143.6	142.9	142.0	143.0	149.0	150.6	148.0	147.2	143.8	143.7
Eggs	118.5	110.6	129.4	134.9	143.9	124.7	131.6	130.3	115.0	112.2
Dairy products 2/	115.6	113.6	120.2	122.9	125.8	126.9	126.8	125.2	124.7	124.9
Fats & oils 3/	121.2	121.6	121.0	121.6	123.5	123.4	124.2	124.3	125.0	125.5
Fresh fruit	152.4	151.7	152.7	154.8	171.4	170.3	171.1	175.7	174.9	173.2
Processed fruit	125.9	125.6	126.6	125.2	125.1	131.9	136.7	138.1	139.2	140.1
Fresh vegetables	143.1	150.8	141.9	136.5	178.9	186.3	168.3	145.6	139.8	140.0
Potatoes	153.5	172.5	135.0	140.0	150.1	160.1	170.6	187.3	187.4	185.8
Processed vegetables	124.2	125.5	123.8	124.8	125.4	126.3	126.6	127.0	127.8	127.6
Cereals & bakery products	132.4	132.1	135.3	136.1	136.9	137.4	137.6	138.9	139.3	140.1
Sugar & sweets	119.4	119.2	120.7	121.1	122.5	122.9	123.0	123.6	124.4	124.5
Beverages, nonalcoholic	111.3	111.5	111.2	111.0	112.4	113.3	113.1	112.4	112.7	113.3
Apparel										
Apparel, commodities less footwear	117.1	116.1	121.1	117.6	114.6	119.0	124.9	126.2	124.5	121.6
Footwear	114.4	114.0	116.6	114.7	113.1	114.5	116.9	118.6	118.5	117.3
Tobacco & smoking products	164.4	164.2	168.6	171.9	174.1	175.0	175.1	175.6	176.7	180.9
Beverages, alcoholic	123.5	123.5	125.5	125.6	126.2	126.9	127.8	128.2	128.9	129.3

1/ Beef, veal, lamb, pork, & processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ann Duncan (202) 786-3313.

Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1989	1990					
	1987	1988	1989	June	Jan	Feb R	Mar	Apr	May	June
					1982 = 100					
Finished goods 1/	105.4	108.0	113.5	114.3	117.6	117.4	117.0	117.0	117.7	117.9
Consumer foods	109.5	112.6	118.7	118.6	123.9	124.6	124.1	123.2	124.8	124.5
Fresh fruit	112.0	113.5	111.9	115.4	112.1	114.3	112.5	110.3	105.4	114.7
Fresh & dried vegetables	103.7	105.5	116.9	128.9	161.5	161.7	148.9	103.5	101.6	100.6
Dried fruit	95.0	99.1	103.0	102.8	104.9	106.4	108.9	106.3	105.2	105.2
Canned fruit & juice	115.3	120.2	122.6	122.6	124.3	126.7	127.5	127.6	127.7	127.6
Frozen fruit & juice	113.3	129.8	124.6	128.2	129.3	147.3	147.8	146.0	146.1	146.2
Fresh veg. excl. potatoes	99.0	100.4	104.2	117.0	164.0	203.2	136.6	74.8	78.0	83.7
Canned veg. & juices	103.5	108.3	118.6	118.6	117.9	117.8	118.0	119.1	118.5	118.5
Frozen vegetables	107.3	108.6	115.5	115.7	117.6	117.9	118.4	117.8	119.5	117.6
Potatoes	120.1	113.9	153.6	161.8	162.0	161.2	166.3	199.0	176.0	151.2
Eggs	87.6	88.6	119.6	104.8	154.8	114.0	128.9	127.9	95.3	100.4
Bakery products	118.4	129.4	135.4	134.8	138.7	139.8	140.2	140.4	140.6	141.3
Meats	100.4	99.9	104.8	104.0	110.6	111.1	111.5	114.4	120.1	120.3
Beef & veal	95.5	101.4	109.0	107.6	113.1	113.6	113.7	115.7	117.7	115.7
Pork	104.9	95.0	97.5	97.6	107.2	107.7	108.8	113.7	127.4	130.2
Processed poultry	103.4	111.6	120.8	132.5	107.1	111.3	117.8	114.4	119.2	116.0
Fish	140.0	148.7	144.6	134.8	148.5	148.4	160.6	162.0	175.9	142.4
Dairy products	101.6	102.2	110.6	106.4	120.5	116.9	115.0	115.1	116.7	119.2
Processed fruits & vegetables	108.6	113.8	120.0	120.6	122.4	125.7	126.6	126.8	127.1	126.7
Shortening & cooking oil	103.9	118.8	116.6	116.7	117.0	116.9	120.9	118.6	127.0	128.4
Consumer finished goods less foods	100.7	103.1	108.9	110.4	113.2	112.4	111.7	111.9	112.5	112.8
Beverages, alcoholic	110.3	111.8	115.2	116.8	115.5	116.6	117.7	117.3	117.6	117.4
Soft drinks	111.8	114.3	117.2	117.4	122.1	123.5	123.2	123.3	122.8	120.5
Apparel	108.3	111.7	114.5	114.1	116.8	116.9	117.0	117.1	117.0	117.3
Footwear	109.3	115.1	120.8	119.9	124.2	125.3	124.5	124.8	125.2	125.2
Tobacco products	154.6	171.9	194.9	196.8	212.3	212.8	212.5	212.5	218.0	224.1
Intermediate materials 2/	101.5	107.1	112.0	112.7	113.4	112.5	112.4	112.8	112.9	112.9
Materials for food manufacturing	100.8	106.0	112.7	112.4	115.5	114.9	115.8	117.3	120.5	120.9
Flour	92.9	105.7	114.6	116.8	113.4	113.1	110.6	112.4	111.3	109.0
Refined sugar 3/	106.4	108.9	118.3	117.6	122.4	123.2	122.5	123.4	122.4	122.5
Crude vegetable oils	84.2	116.6	103.4	103.2	100.2	102.8	113.7	113.9	125.5	128.7
Crude materials 4/	93.7	96.0	103.0	104.1	106.5	106.8	105.6	102.6	104.2	101.0
Foodstuffs & feedstuffs	96.2	106.1	111.1	111.7	113.5	113.9	115.2	114.8	116.7	115.2
Fruits & vegetables 5/	106.8	108.5	114.1	122.3	139.1	158.9	132.3	106.0	102.8	106.3
Grains	71.1	97.9	106.4	105.8	100.8	100.4	100.2	107.2	108.6	110.4
Livestock	102.0	103.3	106.0	106.0	110.7	113.2	116.5	117.4	120.0	117.3
Poultry, live	101.2	121.5	128.8	148.5	108.9	115.5	129.1	117.3	128.2	118.5
Fibers, plant & animal	108.4	98.4	107.8	110.5	104.8	108.7	114.7	118.7	121.9	125.9
Fluid milk	91.8	89.4	98.1	91.0	114.7	105.1	100.6	96.7	98.3	101.5
Oilseeds	99.2	134.0	123.8	127.5	106.1	104.6	107.2	108.0	110.5	112.2
Tobacco, leaf	85.7	87.2	93.9	93.7	93.7	93.7	93.7	93.7	95.7	95.7
Sugar, raw cane	110.2	111.9	115.5	115.4	116.9	117.9	119.0	120.7	119.5	119.0
All commodities	102.8	106.9	112.2	112.9	114.9	114.4	114.2	114.0	114.5	114.2
Industrial commodities	102.5	106.3	111.6	112.4	114.1	113.6	113.2	113.1	113.3	113.1
All foods 6/	107.8	111.5	117.6	117.6	122.8	123.3	122.9	122.1	124.1	123.8
Farm products & processed foods & feeds	103.7	110.0	115.3	115.4	116.3	116.4	116.7	118.4	120.2	119.7
Farm products	95.5	104.9	110.7	111.8	114.9	115.7	115.0	112.8	113.1	113.1
Processed foods & feeds 6/	107.9	112.7	117.8	117.4	120.2	120.0	120.8	121.4	123.9	123.1
Cereal & bakery products	112.6	123.0	131.1	131.2	133.2	133.6	133.9	134.5	135.1	134.8
Sugar & confectionery	112.6	114.7	120.1	120.7	121.1	121.8	122.0	122.9	122.7	122.7
Beverages	112.5	114.3	116.3	119.6	119.7	120.7	120.8	121.0	121.0	120.5

1/ Commodities ready for sale to ultimate consumer. 2/ Commodities requiring further processing to become finished goods. 3/ All types & sizes of refined sugar. 4/ Products entering market for the first time that have not been manufactured at that point. 5/ Fresh & dried. 6/ Includes all raw, intermediate, & processed foods (excludes soft drinks, alcoholic beverages, & manufactured animal feeds). R = revised.

Information contact: Ann Duncan (202) 786-3313.



## Farm-Retail Price Spreads

Table 8.—Farm-Retail Price Spreads

	Annual			1989	1990					
	1987	1988	1989 P	June	Jan	Feb	Mar	Apr	May	June
<b>Market basket 1/</b>										
Retail cost (1982-84=100)	111.6	116.5	124.6	124.7	132.2	133.1	132.9	132.2	132.0	133.0
Farm value (1982-84=100)	97.1	100.5	107.3	106.7	117.9	117.7	118.1	113.3	113.8	114.4
Farm-retail spread (1982-84=100)	119.4	125.1	134.0	134.4	139.9	141.3	140.9	142.3	141.9	143.0
Farm value-retail cost (%)	30.5	30.2	30.1	30.0	31.2	31.0	31.1	30.0	30.2	30.1
<b>Meat products</b>										
Retail cost (1982-84=100)	109.6	112.2	116.7	116.1	122.3	123.5	124.0	125.2	126.6	129.6
Farm value (1982-84=100)	101.2	99.5	103.3	103.6	111.2	111.6	113.7	117.0	119.9	122.4
Farm-retail spread (1982-84=100)	118.3	125.2	130.4	128.9	133.7	135.7	134.5	133.6	133.5	137.0
Farm value-retail cost (%)	46.7	44.9	44.8	45.2	46.1	45.8	46.4	47.3	47.9	47.8
<b>Dairy products</b>										
Retail cost (1982-84=100)	105.9	108.4	115.6	113.6	125.8	126.9	126.8	125.2	124.7	124.9
Farm value (1982-84=100)	93.3	90.6	99.1	92.5	115.2	108.5	102.8	98.4	99.2	98.9
Farm-retail spread (1982-84=100)	117.5	124.7	130.9	133.0	135.6	143.9	149.0	149.9	148.2	148.9
Farm value-retail cost (%)	42.3	40.1	41.1	39.1	43.9	41.0	38.9	37.7	38.2	38.0
<b>Poultry</b>										
Retail cost (1982-84=100)	112.6	120.7	132.7	140.1	128.6	130.5	134.6	132.1	132.3	134.0
Farm value (1982-84=100)	93.8	110.2	118.2	136.8	100.6	107.1	116.7	107.9	113.9	110.9
Farm-retail spread (1982-84=100)	134.2	132.8	149.3	143.9	160.9	157.4	155.7	160.0	153.6	160.6
Farm value-retail cost (%)	44.6	48.9	47.7	52.2	41.9	43.9	46.3	43.7	46.1	44.3
<b>Eggs</b>										
Retail cost (1982-84=100)	91.5	93.6	118.5	110.6	143.9	124.7	131.6	130.3	115.0	112.2
Farm value (1982-84=100)	78.8	78.7	107.7	95.5	135.4	108.4	125.6	110.3	88.0	93.1
Farm-retail spread (1982-84=100)	117.9	123.9	137.7	137.7	159.1	153.9	142.3	166.2	163.5	146.5
Farm value-retail cost (%)	53.9	52.7	58.4	55.5	60.5	55.9	61.3	54.4	49.2	53.3
<b>Cereal &amp; bakery products</b>										
Retail cost (1982-84=100)	114.8	122.1	132.4	132.1	136.9	137.4	137.6	138.9	139.3	140.1
Farm value (1982-84=100)	71.0	92.7	101.7	103.9	101.1	99.5	100.0	99.5	98.9	96.0
Farm-retail spread (1982-84=100)	120.9	128.2	136.7	136.0	141.9	142.7	142.8	144.4	144.9	146.3
Farm value-retail cost (%)	7.6	9.3	9.4	9.6	9.0	8.9	8.9	8.8	8.7	8.4
<b>Fresh fruits</b>										
Retail cost (1982-84=100)	135.6	145.4	154.7	152.6	177.3	172.5	172.8	179.1	179.4	178.3
Farm value (1982-84=100)	113.9	116.5	108.9	90.3	124.5	131.9	128.4	116.5	116.0	121.3
Farm-retail spread (1982-84=100)	145.7	158.7	175.8	181.4	201.7	191.3	194.2	207.1	208.6	204.6
Farm value-retail cost (%)	26.5	25.3	22.2	18.7	22.2	24.1	23.1	20.9	20.4	21.5
<b>Fresh vegetables</b>										
Retail cost (1982-84=100)	121.6	129.3	143.1	150.8	176.9	186.3	188.3	145.6	139.8	140.0
Farm value (1982-84=100)	112.0	105.8	124.0	131.0	197.4	207.8	187.6	125.7	112.7	112.0
Farm-retail spread (1982-84=100)	126.5	141.3	152.9	161.0	166.4	175.3	158.4	155.9	153.7	154.4
Farm value-retail cost (%)	31.3	27.8	29.4	29.5	37.9	37.8	37.9	29.3	27.4	27.2
<b>Processed fruits &amp; vegetables</b>										
Retail cost (1982-84=100)	109.0	117.6	125.0	125.4	125.1	129.4	132.2	133.2	134.1	134.6
Farm value (1982-84=100)	111.1	136.6	134.6	132.4	133.7	143.7	146.3	149.2	152.5	152.9
Farm-retail spread (1982-84=100)	108.3	111.7	122.0	123.2	122.4	125.0	127.8	128.2	128.4	128.9
Farm value-retail cost (%)	24.2	27.6	25.6	25.1	25.4	26.4	26.3	26.6	27.0	27.0
<b>Fats &amp; oils</b>										
Retail cost (1982-84=100)	108.1	113.1	121.2	121.6	123.5	123.4	124.2	124.3	125.0	125.5
Farm value (1982-84=100)	74.1	103.0	95.7	99.2	93.0	96.7	106.0	106.3	115.4	114.2
Farm-retail spread (1982-84=100)	120.6	116.8	130.5	129.8	134.7	133.2	130.1	130.9	128.5	129.7
Farm value-retail cost (%)	18.6	24.5	21.2	21.9	20.3	21.1	23.4	23.0	24.8	24.5
	Annual			1989	1990					
	1987	1988	1989 P	June	Jan	Feb	Mar	Apr	May	June
<b>Beef, Choice</b>										
Retail price 2/ (cts./lb.)	242.5	254.7	269.9	268.1	281.3	281.5	281.5	285.4	287.0	288.6
Net carcass value 3/ (cts.)	145.3	153.9	160.6	158.5	168.7	167.9	169.2	170.9	170.3	167.2
Net farm value 4/ (cts.)	137.9	147.4	155.4	152.5	163.3	164.2	166.2	168.1	165.0	161.7
Farm-retail spread (cts.)	104.6	107.3	114.5	115.6	118.0	117.3	115.3	117.3	122.0	126.9
Carcass-retail 5/ (cts.)	97.2	100.8	109.3	109.6	112.6	113.6	112.3	114.5	116.7	121.4
Farm-carcass 6/ (cts.)	7.4	6.5	5.2	6.0	5.4	3.7	3.0	2.8	5.3	5.5
Farm value-retail price (%)	57	58	58	57	58	58	59	59	57	56
<b>Pork</b>										
Retail price 2/ (cts./lb.)	188.4	183.4	182.9	179.1	195.1	196.5	197.0	200.9	206.2	218.1
Wholesale value 3/ (cts.)	113.0	101.0	99.2	99.6	104.8	105.6	110.9	114.8	127.2	125.6
Net farm value 4/ (cts.)	82.7	69.4	70.4	74.0	76.8	78.4	83.3	86.1	99.5	96.9
Farm-retail spread (cts.)	105.7	114.0	112.5	105.1	118.5	118.1	113.7	114.8	106.7	121.2
Wholesale-retail 5/ (cts.)	75.4	82.4	83.7	79.5	90.3	90.9	86.1	88.1	79.0	92.5
Farm-wholesale 6/ (cts.)	30.3	31.6	28.8	25.6	28.2	27.2	27.6	28.7	27.7	28.7
Farm value-retail price (%)	44	38	38	41	39	40	42	43	48	44

1/ Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by BLS. The farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale & may include marketing charges such as grading & packing for some commodities. The farm-retail spread, the difference between the retail price & the farm value, represents charges for assembling, processing, transporting, distributing. 2/ Weighted average price of retail cuts from pork & choice yield grade 3 beef carcasses. Prices for BLS. 3/ Value of carcass quantity (beef) & wholesale cuts (pork) equivalent to 1 lb. of retail cuts, minus value of byproducts. 4/ Charges for retailing & other marketing services such as fabricating, wholesaling, in-city transportation. 5/ Charges for livestock marketing, processing, & transportation.

Information contacts: Denis Dunham (202) 786-1870, Larry Duewer (202) 786-1712.

Table 9.—Price Indexes of Food Marketing Costs

	Annual			1989				1990	
	1987	1988	1989	I	II	III	IV	I	II P
	1987=100 <sup>a</sup>								
<b>Labor—hourly earnings &amp; benefits</b>	361.1	370.1	379.4	377.8	378.8	378.5 <sup>b</sup>	382.3	388.9	390.2
Processing	370.2	382.0	391.1	389.8	391.4	390.5	392.9	398.7	402.0
Wholesaling	384.2	394.1	409.2	405.1	407.6	410.8	413.1	415.9	419.5
Retailing	341.7	347.7	354.5	353.9	353.6	352.2	358.2	362.1	365.5
<b>Packaging &amp; containers</b>	329.8	350.7	364.6	362.4	364.7	366.1	365.2	367.1	367.3
Paperboard boxes & containers	288.0	308.1	323.7	319.1	323.2	325.5	326.9	326.7	324.1
Metal cans	433.9	442.3	443.2	438.1	438.1	448.2	448.2	450.9	456.3
Paper bags & related products	331.3	372.2	409.2	408.3	411.5	409.2	407.7	411.5	408.9
Plastic films & bottles	280.2	305.7	313.2	318.8	316.1	311.3	306.7	308.5	308.9
Glass containers	402.0	398.9	409.9	401.2	413.1	413.5	412.0	422.2	428.0
Metal foil	222.1	266.9	274.4	282.9	278.0	271.6	265.1	250.0	257.6
<b>Transportation services</b>	385.0	403.5	404.9	403.2	403.5	406.2	406.6	410.9	410.5
Advertising	361.1	384.7	410.4	403.8	407.4	412.8	417.6	427.0	431.3
<b>Fuel &amp; power</b>	596.7	578.2	619.4	601.1	614.8	620.0	641.5	652.6	615.0
Electric	450.5	453.3	486.9	451.3	486.1	492.0	486.4	484.2	470.3
Petroleum	561.4	502.0	592.1	560.5	583.4	590.0	664.6	693.3	582.6
Natural gas	1,049.0	1,042.1	1,070.9	1,073.1	1,068.6	1,067.2	1,074.8	1,092.3	1,059.0
<b>Communications, water &amp; sewage</b>	238.4	241.3	247.3	244.5	247.0	248.9	248.7	251.5	253.0
<b>Rent</b>	269.6	272.6	277.1	277.4	276.8	277.1	277.1	272.2	272.2
<b>Maintenance &amp; repair</b>	382.6	395.9	410.7	404.8	408.9	412.9	416.2	421.1	425.2
<b>Business services</b>	349.0	364.6	380.3	382.7	388.6	389.9	393.9	399.0	400.1
<b>Supplies</b>	286.6	305.6	321.4	321.3	323.9	321.1	319.3	318.7	318.9
<b>Property taxes &amp; insurance</b>	399.6	419.9	439.7	431.4	435.6	442.3	449.4	452.7	456.5
<b>Interest, short-term</b>	132.9	150.3	172.1	184.9	181.8	184.2	157.6	158.0	160.3
<b>Total marketing cost index</b>	360.4	372.4	384.9	381.9	384.0	385.1	388.2	392.7	392.9

<sup>a</sup> Indexes measure changes in employee earnings & benefits & in prices of supplies & services used in processing, wholesaling, & retailing U.S. farm foods purchased for at-home consumption. P = preliminary.

Information contact: Denis Dunham (202) 786-1870.

## Livestock &amp; Products

Table 10.—U.S. Meat Supply &amp; Use

	Beg. stocks	Produc- tion 1/	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price 3/
							Total	Per capita 2/	
Million pounds 4/							Pounds		
Beef									
1987	412	23,566	2,269	26,247	604	386	25,257	73.4	64.60
1988	386	23,589	2,379	26,354	680	422	25,252	72.3	69.54
1989	422	23,087	2,175	25,684	1,062	325	24,267	68.9	72.52
1990 F	335	22,803	2,156	25,294	1,120	325	23,849	67.0	75-78
Pork									
1987	248	14,374	1,195	15,817	109	347	15,362	59.1	51.69
1988	347	15,684	1,137	17,168	195	414	16,559	63.5	43.39
1989	414	15,813	896	17,123	268	285	16,570	63.2	44.03
1990 F	285	15,347	912	16,596	259	375	15,964	60.3	53-56
Veal 5/									
1987	7	429	24	460	7	4	449	1.5	78.05
1988	4	398	27	427	10	5	412	1.4	89.85
1989	5	355	0	360	0	4	356	1.2	91.84
1990 F	4	310	0	314	0	4	310	1.0	96-99
Lamb & mutton									
1987	13	316	44	372	1	8	363	1.3	78.09
1988	8	335	51	394	1	6	387	1.4	68.26
1989	6	347	63	416	2	8	406	1.5	67.32
1990 F	8	369	50	427	2	8	417	1.5	56-59
Total red meat									
1987	679	38,684	3,532	42,895	721	745	41,430	135.9	—
1988	745	40,004	3,594	44,343	886	847	42,610	138.6	—
1989	847	39,602	3,134	43,583	1,332	632	41,619	134.7	—
1990 F	632	38,883	3,118	42,633	1,381	712	40,540	129.8	—
Broilers									
1987	24	15,597	0	15,620	752	25	14,644	60.8	47.4
1988	25	16,187	0	16,212	765	36	15,410	62.5	56.3
1989	36	17,429	0	17,464	859	38	16,567	68.6	59.0
1990 F	36	16,627	0	16,665	1,087	30	17,548	69.9	54-57
Mature chicken									
1987	183	638	0	801	15	188	598	2.5	—
1988	188	633	0	821	26	157	639	2.6	—
1989	157	575	0	731	24	189	518	2.1	—
1990 F	189	590	0	779	28	180	571	2.3	—
Turkeys									
1987	178	3,833	0	4,011	33	266	3,712	15.2	57.8
1988	266	3,960	0	4,226	61	250	3,926	15.9	61.5
1989	250	4,276	0	4,526	40	236	4,250	17.1	66.7
1990 F	236	4,653	0	4,889	45	260	4,584	18.3	60-63
Total poultry									
1987	365	20,068	0	20,433	900	479	19,154	78.5	—
1988	479	20,780	0	21,259	842	442	19,975	81.1	—
1989	442	22,280	0	22,722	923	463	21,335	85.6	—
1990 F	463	23,870	0	24,333	1,161	470	22,702	90.6	—
Red meat & poultry									
1987	1,044	58,752	3,532	63,328	1,521	1,224	60,583	214.4	—
1988	1,224	60,784	3,594	65,601	1,728	1,269	62,584	219.6	—
1989	1,289	61,882	3,134	66,305	2,210	1,095	62,999	220.5	—
1990 F	1,095	62,753	3,118	66,968	2,542	1,182	63,242	220.3	—

1/ Total including farm production for red meats & federally inspected plus nonfederally inspected for poultry. 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was .71 for 1987, & 70.5 for 1988-90.) 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Choice steers, Omaha 1,000-1,100 lb.; pork: barrows and gilts, 7 markets; veal: farm price of calves; lamb & mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats & certified ready-to-cook for poultry. 5/ Beginning 1989 veal trade no longer reported separately. F = forecast. — = not available.

Information contacts: Polly Cochran, or Maxine Davis (202) 786-1284.



Table 11.—U.S. Egg Supply &amp; Use

	Beg. stocks	Pro- duc- tion	Im- ports	Total supply	Ex- ports	Hatch- ing use	Ending stocks	Consumption		Wholesale price*
								Total	Per capita	
				Million dozen						Cts./doz.
1985	11.1	5,710.1	12.7	5,733.9	70.6	548.1	10.7	5,104.5	255.9	86.4
1986	10.7	5,766.3	13.7	5,790.7	101.6	568.8	10.4	5,111.9	253.8	71.1
1987	10.4	5,868.2	5.6	5,884.2	111.2	599.1	14.4	5,159.5	253.8	81.6
1988	14.4	5,783.5	5.3	5,803.2	141.8	605.9	15.2	5,040.3	245.5	82.1
1989	15.2	5,588.8	25.2	5,627.1	91.6	642.5	10.7	4,882.4	235.5	81.9
1990 F	10.7	5,653.5	8.9	5,673.0	88.4	675.3	12.0	4,897.3	234.2	72-76

\* Cartoned grade A large eggs, New York. F = forecast.

Information contact: Maxine Davis (202) 786-1714.

Table 12.—U.S. Milk Supply & Use<sup>1</sup>

	Pro-duction	Farm use	Commercial		Im-ports	Total commercial supply	CCC net re-movals	Commercial		All milk price 2/
			Farm market-ings	Beg. stock				Ending stocks	Disap-pear-ance	
	Billion pounds									
1982	135.5	2.4	133.1	5.4	2.5	141.0	14.3	4.6	122.1	13.61
1983	139.6	2.4	137.2	4.6	2.6	144.4	16.8	5.2	122.4	13.58
1984	135.4	2.9	132.4	5.2	2.7	140.4	8.8	4.9	126.8	13.46
1985	143.0	2.6	140.6	4.9	2.8	148.3	13.2	4.6	130.5	12.75
1986	143.1 <sup>1</sup>	2.4	140.7	4.6	2.7	148.1	10.6	4.2	133.3	12.51
1987	142.7	2.3	140.5	4.2	2.5	147.1	8.7	4.6	135.8	12.54
1988	145.2	2.2	142.9	4.6	2.4	150.0	8.9	4.3	136.8	12.24
1989	144.3	2.1	142.2	4.3	2.5	148.9	9.0	4.1	135.8	13.54
1990 F	147.7	2.1	145.6	4.1	2.5	152.3	7.7	4.3	140.3	14.25

<sup>1/</sup> Milkfat basis. Totals may not add because of rounding. <sup>2/</sup> Delivered to plants & dealers; does not reflect deductions. F = forecast.

Information contact: Jim Miller (202) 786-1770.

Table 13.—Poultry &amp; Eggs

	Annual			1989						
	1987	1988	1989	June	Jan	Feb	Mar	Apr	May	June
<b>Broilers</b>										
Federally inspected slaughter, certified (mil. lb.)	15,602.5	16,124.4	17,334.2	1,514.5	1,519.6	1,362.1	1,613.1	1,489.3	1,631.1	4/ 1,580.0
Wholesale price, 12-city (cts./lb.)	47.4	56.3	59.0	67.4	51.7	57.4	60.4	55.3	57.9	56.4
Price of grower feed (\$/ton)	186	220	235	241	224	223	221	217	220	220
Broiler-feed price ratio 1/	3.1	3.1	2.8	3.5	2.7	3.0	3.3	3.1	3.2	3.1
Stocks beginning of period (mil. lb.)	23.9	24.8	35.9	35.3	38.3	28.2	22.7	31.4	32.9	30.9
Broiler-type chicks hatched (mil.) 2/	5,379.2	5,602.4	5,944.3	510.6	518.3	472.9	543.1	535.8	553.7	540.9
<b>Turkeys</b>										
Federally inspected slaughter, certified (mil. lb.)	3,717.1	3,923.4	4,174.8	388.6	319.0	297.7	366.7	328.4	384.1	387.0
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts./lb.)	57.8	61.2	66.7	73.0	65.6	55.2	58.9	59.6	61.3	62.9
Price of turkey grower feed (\$/ton)	213	243	252	250	239	241	240	239	239	239
Turkey-feed price ratio 1/	3.2	3.0	3.2	3.5	3.0	2.8	3.1	3.1	3.2	3.2
Stocks beginning of period (mil. lb.)	178.2	266.2	249.7	355.6	235.9	267.1	276.3	318.8	354.4	405.6
Poults placed in U.S. (mil.)	264.2	261.4	289.0	29.0	24.7	24.9	27.3	28.9	29.0	29.2
<b>Eggs</b>										
Farm production (mil.)	70,418	69,402	67,041	5,488	5,895	5,155	5,833	5,653	5,765	5,541
Average number of layers (mil.)	284	277	269	267	271	272	272	272	270	267
Rate of lay (eggs per layer on farms)	248	251	250	20.6	20.9	19.0	21.5	20.8	21.4	20.7
Cartoned price, New York, grade A large (cts./doz.) 3/	61.6	62.1	61.9	75.2	92.4	79.6	91.5	82.4	67.9	73.6
Price of laying feed (\$/ton)	170	202	209	210	199	198	198	195	197	224
Egg-feed price ratio 1/	6.3	5.3	6.7	6.1	8.4	7.1	8.0	6.6	6.1	5.9
<b>Stocks, first of month</b>										
Shell (mil. doz.)	0.66	1.29	0.27	0.78	0.36	0.69	0.48	0.69	0.60	0.63
Frozen (mil. doz.)	9.8	13.1	14.9	12.3	10.3	10.8	11.5	12.7	13.1	12.8
Replacement chicks hatched (mil.)	428	368	384	34.7	32.0	32.2	36.4	37.2	37.7	34.5

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks is currently reported for 15 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Price of cartoned eggs to volume buyers for delivery to retailers. 4/ Estimated.

Information contact: Maxine Davis (202) 786-1714.

Table 14.—Dairy

	Annual			1989	1990					
	1987	1988	1989	June	Jan	Feb	Mar	Apr	May	June
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	11.23	11.03	12.37	11.33	13.94	12.21	12.02	12.32	12.78	13.28
Wholesale prices										
Butter, grade A Chl. (cts./lb.)	140.2	132.5	127.9	131.0	110.8	108.3	108.3	108.9	99.0	98.4
Am. cheese, Wis. assembly pt. (cts./lb.)	123.2	123.8	138.8	130.8	152.3	131.8	130.7	140.5	145.7	149.5
Nonfat dry milk (cts./lb.) 2/	79.3	80.2	105.6	88.5	88.2	82.3	86.8	104.3	126.4	129.2
USDA net removals										
Total milk equiv. (mil. lb.) 3/	6,706.0	8,856.2	8,967.9	863.5	1,480.9	1,244.9	936.7	974.5	1,014.2	498.6
Butter (mil. lb.)	187.3	312.8	413.4	40.3	71.8	59.9	45.0	46.9	48.9	23.9
Am. cheese (mil. lb.)	282.0	238.1	37.4	2.9	0	0	0	0	0	0
Nonfat dry milk (mil. lb.)	559.4	267.5	0	0	2.9	-0.7	0	0	0	0
Milk										
Milk prod. 21 States (mil. lb.)	121,431	123,518	122,531	10,327	10,479	9,813	10,997	10,842	11,226	10,674
Milk per cow (lb.)	13,969	14,291	14,370	1,214	1,227	1,150	1,292	1,274	1,319	1,264
Number of milk cows (1,000)	8,693	8,643	8,527	8,504	8,537	8,534	8,510	8,507	8,613	8,512
U.S. milk production (mil. lb.)	142,709	145,152	144,252	6/ 12,148	6/ 12,372	6/ 11,585	6/ 12,983	6/ 12,782	6/ 13,215	6/ 12,565
Stock, beginning										
Total (mil. lb.)	12,887	7,440	8,234	13,283	8,795	9,294	9,819	10,651	11,418	12,485
Commercial (mil. lb.)	4,185	4,846	4,289	5,781	4,131	4,509	4,712	5,008	5,145	5,383
Government (mil. lb.)	8,702	2,794	3,945	7,482	4,664	4,785	5,107	5,643	6,272	7,082
Imports, total (mil. lb.) 3/	2,490	2,394	2,499	177	193	194	195	253	216	—
Commercial disappearance (mil. lb.)	135,754	138,805	135,843	11,159	10,521	10,173	11,770	11,733	12,004	—
Butter										
Production (mil. lb.)	1,104.1	1,207.5	1,273.5	98.8	127.1	115.7	120.2	120.0	120.5	95.9
Stocks, beginning (mil. lb.)	193.0	143.2	214.7	438.3	256.2	282.0	285.1	318.8	349.1	392.2
Commercial disappearance (mil. lb.)	902.6	909.8	854.1	54.7	57.4	54.3	72.6	75.0	68.9	—
American cheese										
Production (mil. lb.)	2,718.7	2,756.6	2,672.8	233.2	231.7	239.8	255.2	249.9	264.7	252.5
Stocks, beginning (mil. lb.)	697.1	370.4	293.0	313.6	238.2	262.1	272.4	292.7	299.6	314.1
Commercial disappearance (mil. lb.)	2,437.1	2,570.0	2,681.6	229.9	207.2	229.6	235.3	243.9	251.8	—
Other cheese										
Production (mil. lb.)	2,627.7	2,816.4	2,941.3	250.4	252.1	232.1	274.8	265.1	280.8	276.3
Stocks, beginning (mil. lb.)	92.0	89.7	104.7	115.8	93.2	99.3	103.8	104.0	112.7	119.6
Commercial disappearance (mil. lb.)	2,880.2	3,034.5	3,208.9	263.6	259.9	246.1	294.8	278.6	297.7	—
Nonfat dry milk										
Production (mil. lb.)	1,056.8	979.7	874.7	79.5	81.4	71.2	77.4	90.0	95.1	83.3
Stocks, beginning (mil. lb.)	686.8	177.2	53.1	100.7	49.6	49.4	58.8	81.8	62.6	70.8
Commercial disappearance (mil. lb.)	492.9	734.3	873.0	100.4	58.7	64.3	75.3	86.9	87.6	—
Frozen dessert										
Production (mil. gal.) 4/	1,260.7	1,248.0	1,214.0	127.7	78.5	85.4	103.9	104.1	114.2	119.0
	Annual			1988	1989				1990	
	1987	1988	1989	IV	I	II	III	IV	I P	II P
Milk production (mil. lb.)	142,709	145,152	144,252	35,262	36,445	37,702	35,188	34,917	38,940	38,542
Milk per cow (lb.)	13,819	14,145	14,244	3,447	3,586	3,727	3,484	3,448	3,844	3,807
No. of milk cows (1,000)	10,327	10,262	10,127	10,229	10,164	10,116	10,101	10,127	10,137	10,124
Milk-feed price ratio 5/	1.84	1.58	1.84	1.59	1.58	1.48	1.63	1.92	1.83	1.87
Returns over concentrate 5/ costs (\$/cwt milk)	9.52	9.05	10.08	9.86	9.69	8.96	9.92	12.16	11.32	10.20

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area. 3/ Milk equivalent, fat basis. 4/ Hard ice cream, ice milk, & hard sherbet. 5/ Based on average milk price after adjustment for price support deductions. 6/ Estimated. P = preliminary. — = not available.

Information contact: Jim Miller (202) 786-1770.

Table 15.—Wool

	Annual			1989				1990	
	1987	1988	1989	I	II	III	IV	I	II
U.S. wool price, (cts./lb.) 1/	265	438	370	433	372	350	328	289	272
Imported wool price, (cts./lb.) 2/	247	372	354	362	322	309	316	306	292
U.S. mill consumption, scoured 3/									
Apparel wool (1,000 lb.)	129,677	117,069	112,998	32,103	29,991	25,983	24,921	28,209	—
Carpet wool (1,000 lb.)	13,092	15,633	14,122	3,294	3,979	3,865	2,984	3,829	—

1/ Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.00-22.04 microns) staple 2-3/4" & up. 2/ Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents. 3/ Beginning 1990 mill consumption reported only on a quarterly basis. — = not available.

Information contact: John Lawler (202) 786-1840.

Table 16.—Meat Animals

	Annual			1989						
	1987	1988	1989	June	Jan	Feb	Mar	Apr	May	June
Cattle on feed (7 States)										
Number on feed (1,000 head) 1/	7,953	8,411	8,045	7,795	8,378	8,528	8,319	8,483	8,181	7,887
Placed on feed (1,000 head)	21,040	20,654	20,834	1,293	1,898	1,403	1,902	1,377	1,632	1,340
Marketings (1,000 head)	19,545	19,818	19,422	1,791	1,634	1,516	1,618	1,554	1,798	1,824
Other disappearance (1,000 head)	1,217	1,202	1,079	62	114	95	120	125	150	73
Beef steer-corn price ratio, Omaha 2/	41.0	31.5	30.3	28.9	34.2	34.0	32.6	31.1	29.3	27.9
Hog-corn price ratio, Omaha 2/	32.8	19.6	18.4	18.5	21.6	22.0	21.9	21.2	23.6	22.4
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, Omaha	64.60	69.54	72.52	71.71	76.73	76.61	78.15	79.36	77.57	75.83
Utility cows, Omaha	44.83	46.55	47.88	48.56	49.78	52.79	54.67	54.48	55.41	56.04
Feeder cattle										
Choice, Kansas City, 600-700 lb.	75.36	83.67	86.13	85.38	85.70	84.88	87.50	90.81	91.90	94.13
Slaughter hogs										
Barrows & gilts, 7-markets	51.69	43.39	44.03	46.10	47.94	48.51	51.91	54.11	62.18	60.75
Feeder pigs										
S. Mo. 40-50 lb. (per head)	46.69	36.06	33.63	28.85	44.56	54.41	63.19	64.97	56.80	47.32
Slaughter sheep & lambs										
Lambs, Choice, San Angelo	78.09	68.26	67.32	72.63	54.80	60.38	63.69	63.13	62.25	53.56
Ewes, Good, San Angelo	38.62	38.88	38.58	37.10	38.30	38.47	38.81	38.50	33.25	32.38
Feeder lambs										
Choice, San Angelo	102.26	90.89	79.85	75.94	72.10	74.88	75.63	71.31	64.30	56.50
Wholesale meat prices, Midwest										
Choice steer beef, 600-700 lb.	97.24	103.34	107.78	106.35	113.30	112.80	113.65	114.70	114.34	112.13
Canner & cutter cow beef	85.26	87.77	94.43	93.83	99.89	100.95	102.04	100.61	101.29	101.51
Pork loins, 14-18 lb. 3/	106.23	97.49	101.09	108.28	101.36	107.75	117.26	120.68	136.08	125.62
Pork bellies, 12-14 lb.	63.11	41.25	34.14	32.90	48.85	42.53	42.60	52.60	61.48	65.15
Hams, skinned, 14-17 lb.	80.96	71.03	69.39	64.00	68.44	76.50	79.00	77.33	81.00	NQ
All fresh beef retail price 4/	212.64	224.81	238.97	237.30	247.81	249.14	249.10	252.88	251.52	254.05
Commercial slaughter (1,000 head) 5/										
Cattle	35,647	35,079	33,917	3,024	2,851	2,602	2,764	2,618	2,989	2,934
Steers	17,443	17,344	16,536	1,606	1,380	1,241	1,398	1,348	1,547	1,518
Heifers	10,908	10,754	10,406	952	829	769	834	771	894	913
Cows	6,610	6,337	6,316	508	606	446	481	448	490	448
Bulls & stags	689	644	659	58	56	46	51	51	58	65
Calves	2,815	2,508	2,172	167	181	150	171	132	142	137
Sheep & lambs	5,199	5,293	5,464	437	489	441	493	487	478	440
Hogs	81,081	87,795	88,693	7,081	7,605	6,820	7,454	6,959	6,976	6,322
Commercial production (mil. lb.)										
Beef	23,405	23,424	22,974	2,022	1,932	1,705	1,870	1,747	2,007	1,979
Veal	418	387	344	29	27	24	28	23	26	25
Lamb & mutton	309	329	341	26	32	29	32	31	31	28
Pork	14,312	15,623	15,759	1,266	1,359	1,215	1,328	1,247	1,256	1,142
	Annual			1989				1990		
	1987	1988	1989	I	II	III	IV	I	II	III
Cattle on feed (13 States)										
Number on feed (1,000 head) 1/	9,555	10,114	9,688	9,688	9,918	8,680	8,276	9,943	10,063	8,761
Placed on feed (1,000 head)	25,074	24,423	24,484	6,232	5,212	6,719	7,321	6,088	5,111	—
Marketings (1,000 head)	23,128	23,459	22,955	5,856	6,040	5,896	5,361	5,583	6,013	5,906
Other disappearance (1,000 head)	1,389	1,390	1,274	344	410	227	293	365	400	—
Hogs & pigs (10 States) 5/										
Inventory (1,000 head) 1/	39,730	42,675	43,210	43,210	41,655	44,020	45,200	42,200	40,190	42,930
Breeding (1,000 head) 1/	5,125	5,435	5,335	5,335	5,440	5,565	5,335	5,280	5,250	5,465
Market (1,000 head) 1/	34,605	37,240	37,875	37,875	36,215	38,455	39,865	36,920	34,940	37,465
Farrowings (1,000 head)	8,853	9,370	9,203	2,109	2,580	2,324	2,190	2,013	2,465	2,319
Pig crop (1,000 head)	68,955	72,268	71,807	16,441	20,309	18,167	16,890	15,748	19,633	—

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Prior to 1984, 8-14 lb.; 1984 & 1985, 14-17 lb.; beginning 1986, 14-18 lb. 4/ New series estimating the composite price of all beef grades & ground beef sold by retail stores. This new series is in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 5/ Quarters are Dec. of preceding year-Feb. (I), Mar.-May (II), June-Aug. (III), & Sept.-Nov. (IV). 6/ Intentions.

Classes estimated. NQ = not quote. -- = not available.

Information contact: Polly Cochran (202) 786-1284.



## Crops &amp; Products

Table 17.—Supply & Utilization<sup>1,2</sup>

	Area			Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Ex-ports	Total use	Ending stocks	Farm price 5/
	Set aside 3/	Planted	Harvested									
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Wheat												
1985/86	18.8	75.6	64.7	37.5	2,424	3,865	284	767	909	1,960	1,905	3.08
1986/87	21.0	72.1	60.7	34.4	2,091	4,017	401	798	999	2,198	1,821	2.42
1987/88	23.9	65.8	56.0	37.7	2,109	3,945	280	806	1,598	2,684	1,261	2.57
1988/89*	22.5	65.5	53.2	34.1	1,812	3,090	157	818	1,419	2,394	702	3.72
1989/90*	9.6	76.6	62.1	32.8	2,036	2,761	180	833	1,233	2,228	835	3.72
1990/91*	8.6	77.3	60.9	38.7	2,705	3,262	400	840	1,175	2,415	847	2.65-3.05
Rice												
	Mil. acres		Lb./acre					Mil. cwt (rough equiv.)				\$/cwt
1985/86	1.24	2.51	2.49	5,414	134.9	201.8	—	6/ 65.8	58.7	124.5	77.3	6.53
1986/87	1.48	2.38	2.36	5,651	133.4	213.3	—	6/ 77.7	84.2	161.9	51.4	3.75
1987/88	1.57	2.36	2.33	5,555	129.6	184.0	—	6/ 80.4	72.2	152.6	31.4	7.27
1988/89*	1.09	2.93	2.90	5,514	159.9	195.4	—	6/ 82.8	85.9	168.7	26.7	6.83
1989/90*	1.21	2.73	2.69	5,749	154.5	186.2	—	6/ 85.4	77.0	162.4	23.8	7.25-7.50
1990/91*	—	2.87	2.82	5,611	188.1	187.6	—	6/ 87.6	74.0	161.6	25.9	6.50-7.50
Corn												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
1985/86	5.4	83.4	75.2	118.0	8,875	10,534	4,107	1,160	1,227	6,494	4,040	2.23
1986/87	14.3	76.7	68.9	119.4	8,228	12,267	4,701	1,192	1,492	7,326	4,882	1.50
1987/88	23.1	65.2	59.5	119.8	7,131	12,016	4,812	1,229	1,718	7,757	4,259	1.94
1988/89*	20.5	67.7	58.3	84.6	4,929	9,191	3,987	1,245	2,028	7,260	1,930	2.54
1989/90*	10.8	72.3	64.8	116.2	7,527	9,460	4,500	1,280	2,350	8,130	1,330	2.32
1990/91*	9.8	74.6	67.1	117.7	7,850	9,182	4,600	1,300	2,075	7,075	1,207	2.35-2.75
Sorghum												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
1985/86	0.9	18.3	16.8	66.6	1,120	1,420	664	28	178	869	551	1.93
1986/87	3.0	15.3	13.9	67.7	938	1,469	535	12	198	746	743	1.37
1987/88	4.1	11.8	10.5	69.4	731	1,474	555	25	231	811	663	1.70
1988/89*	3.9	10.3	9.0	63.8	577	1,239	488	22	310	800	440	2.27
1989/90*	3.3	12.6	11.2	55.4	618	1,057	505	16	285	805	252	2.12
1990/91*	2.9	10.7	9.5	62.4	590	842	465	15	225	705	137	2.10-2.50
Barley												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
1985/86	0.7	13.2	11.6	51.0	591	848	333	169	22	523	325	1.98
1986/87	2.1	13.1	12.0	50.8	611	944	298	174	137	608	338	1.81
1987/88	2.9	11.0	9.9	52.4	521	869	254	174	120	548	321	1.81
1988/89*	2.8	9.8	7.6	38.0	290	622	166	180	79	425	196	2.80
1989/90*	2.3	9.2	8.3	48.6	403	614	184	180	89	453	181	2.42
1990/91*	2.4	8.3	7.7	53.5	414	590	175	185	85	445	145	2.20-2.60
Oats												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
1985/86	0.1	13.3	8.2	63.7	521	728	460	82	2	544	184	1.23
1986/87	0.6	14.7	6.9	56.3	386	603	395	73	3	471	133	1.21
1987/88	0.8	18.0	6.9	54.0	374	552	358	81	1	440	112	1.56
1988/89*	0.3	13.9	5.5	39.3	218	393	184	100	1	294	98	2.81
1989/90*	0.4	12.1	6.9	54.4	374	545	271	115	1	387	157	1.49
1990/91*	0.2	10.4	6.2	60.1	375	577	315	120	1	438	141	1.00-1.50
Soybeans												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
1985/86	0	63.1	61.6	34.1	2,099	2,415	0	1,053	740	1,879	536	5.05
1986/87	0	60.4	58.3	33.3	1,940	2,476	0	1,179	757	2,040	436	4.78
1987/88	0	58.2	57.2	33.9	1,938	2,374	0	1,174	802	2,072	302	6.86
1988/89*	0	58.8	57.4	27.0	1,549	1,855	0	1,058	527	1,673	182	7.42
1989/90*	0	60.7	59.4	32.4	1,927	2,112	0	1,130	620	1,847	265	5.70
1990/91*	—	57.7	56.6	32.5	1,836	2,106	0	1,170	615	1,881	225	5.50-7.00
Soybean oil												
								Mil. lbs.				7/ Cts./lb.
1985/86	—	—	—	—	11,617	12,257	—	10,653	1,257	11,310	947	18.00
1986/87	—	—	—	—	12,793	13,745	—	10,833	1,187	12,020	1,725	15.40
1987/88	—	—	—	—	12,674	8/ 14,895	—	10,930	1,673	12,603	2,092	22.65
1988/89*	—	—	—	—	11,737	8/ 13,967	—	10,591	1,661	12,252	1,715	21.10
1989/90*	—	—	—	—	12,660	8/ 14,425	—	12,000	1,500	13,500	925	22.20
1990/91*	—	—	—	—	13,000	8/ 14,125	—	12,000	1,300	13,300	825	23.6-26.5
Soybean meal												
								1,000 tons				9/ \$/ton
1985/86	—	—	—	—	24,951	25,338	—	19,090	6,036	25,126	212	155
1986/87	—	—	—	—	27,758	27,970	—	20,387	7,343	27,730	240	163
1987/88	—	—	—	—	28,060	28,300	—	21,293	6,854	28,147	153	222
1988/89*	—	—	—	—	24,843	25,100	—	19,639	5,288	24,927	173	233
1989/90*	—	—	—	—	27,027	27,205	—	22,100	4,855	26,955	250	172
1990/91*	—	—	—	—	27,895	28,160	—	22,500	6,350	27,850	300	165-190

See footnotes at end of table.

Table 17.—Supply &amp; Utilization, continued

	Area		Harvested	Yield	Production	Total supply	Feed and residual	Other domestic uses	Exports	Total use	Ending Stocks	Farm price
	Set Aside	Planted										
	3/					4/						5/
	Mil. acres		Lb./acre				Mil. bales					
Cotton 10/												
1985/86	3.6	10.7	10.2	630	13.4	17.6	—	6.4	2.0	8.4	9.4	56.50
1986/87	4.2	10.0	8.5	552	9.7	19.1	—	7.4	6.7	14.1	5.0	52.40
1987/88	3.9	10.4	10.0	706	14.8	19.8	—	7.6	6.6	14.2	5.8	64.30
1988/89*	2.2	12.5	12.0	619	15.4	21.2	—	7.8	6.2	13.9	7.1	58.60
1989/90*	3.5	10.6	9.5	614	12.2	19.3	—	8.6	7.8	16.4	2.9	65.60
1990/91*	1.9	12.3	11.5	622	14.9	17.8	—	8.0	7.0	15.0	2.9	—

\* August 9, 1990 Supply and Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, & oats, August 1 for cotton & rice, September 1 for soybeans, corn, & sorghum, October 1 for soybean meal & soybean oil. 2/ Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.0296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3/ Includes diversion, PIK, acreage reduction, 50-92, & 0-92 programs. 4/ Includes imports. 5/ Market average prices do not include an allowance for loans outstanding & Government purchases. 6/ Residual included in domestic use. 7/ Average of crude soybean oil, Decatur. 8/ Includes 196 million pounds in imports for 1987/88, 138 million in 1988/89, 15 million in 1989/90, & 50 million in 1990/91. 9/ Average of 44 percent, Decatur. 10/ Upland & extra long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply & use estimates & changes in ending stocks. — = not available or not applicable.

Information contact: Commodity Economics Division, Crops Branch (202) 786-1840.

Table 18.—Food Grains

	Marketing year 1/				1989		1990			
	1985/86	1986/87	1987/88	1988/89	June	Feb	Mar	Apr	May	June
Wholesale prices										
Wheat, No. 1 HRW,										
Kansas City (\$/bu.) 2/	3.28	2.72	2.96	4.17	4.41	4.14	4.04	4.13	3.91	3.60
Wheat, DNS,										
Minneapolis (\$/bu.) 2/	3.25	2.62	2.92	4.25	4.29	NQ	NQ	NQ	NQ	NQ
Rice, S.W. La. (\$/cwt) 3/	16.11	10.25	19.25	14.85	15.50	15.65	15.40	15.65	15.80	15.65
Wheat										
Exports (mil. bu.)	915	1,004	1,592	1,424	92	91	109	91	75	—
Mill grind (mil. bu.)	703	755	753	778	61	64	67	62	64	—
Wheat flour production (mil. cwt)	314	335	336	348	27	28	29	27	26	—
Rice										
Exports (mil. cwt, rough equiv.)	58.7	84.2	72.2	65.6	9.1	6.3	8.0	7.3	7.0	—

	Marketing year 1/				1989		1990			
	1986/87	1987/88	1988/89	Sept-Nov	Dec-Feb	Mar-May	June-Aug	Sept-Nov	Dec-Feb	Mar-May
Wheat										
Stocks, beginning (mil. bu.)	1,905	1,821	1,261	2,253.6	1,716.9	1,227.7	701.6	1,017.2	1,423.7	943.1
Domestic use										
Food (mil. bu.)	712	721	715	197.3	166.9	165.0	183.1	183.1	180.5	184.3
Seed, feed & residual (mil. bu.) 4/	485	365	260	17.6	-37.6	-2.8	273.1	-12.8	45.0	-43.3
Exports (mil. bu.)	999	1,596	1,419	329.0	380.5	368.0	389.9	328.6	259.7	534.8

1/ Beginning June 1 for wheat & August 1 for rice. 2/ Ordinary protein. 3/ Long grain, milled basis. 4/ Residual includes feed use. — = not available. NQ = no quote.

Information contacts: Ed Allen & Janet Livezey (202) 786-1840.

Table 19.—Cotton

	Marketing year 1/				1989		1990			
	1985/86	1986/87	1987/88	1988/89	June	Feb	Mar	Apr	May	June
U.S. price, SLM.										
1-1/16 in. (cts./lb.) 2/	60.0	53.2	63.1	57.7	64.1	65.0	66.1	71.3	74.6	77.1
Northern Europe prices										
Index (cts./lb.) 3/	48.9	62.0	72.7	66.4	78.8	76.9	79.2	83.0	86.9	90.3
U.S. M 1-3/32 in. (cts./lb.) 4/	64.8	61.8	76.3	69.2	77.9	77.0	80.2	84.6	88.9	92.7
U.S. mill consumpt. (1,000 bales)	6,399	7,452	7,617	7,782	731	680	748	700	789	720
Exports (1,000 bales)	1,969	6,684	6,582	6,148	254	797	997	734	590	—
Stocks, beginning (1,000 bales)	4,102	9,348	5,026	5,771	9,755	11,182	9,841	8,099	6,665	5,288

1/ Beginning August 1. 2/ Average spot market. 3/ Liverpool Outlook (A) index: average of five lowest prices of 11 selected growths. 4/ Memphis territory growths. — = not available.

Information contact: Scott Sanford (202) 786-1840.

Table 20.—Feed Grains

	Marketing year 1/				1989	1990				
	1985/86	1986/87	1987/88	1988/89	June	Feb <sup>2</sup>	Mar	Apr	May	June
Wholesale prices										
Corn, no. 2 yellow, 30 day, Chicago (\$/bu.)	2.35	1.64	2.14	2.68	2.66	2.41	2.50	2.72	2.83	2.84
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	3.72	2.73	3.40	4.17	4.15	3.84	3.46	4.32	4.47	4.54
Barley, feed, Duluth (\$/bu.) 2/	1.53	1.44	1.78	2.31	2.12	2.20	2.27	2.27	2.33	2.39
Barley, malting, Minneapolis (\$/bu.)	2.24	1.89	2.04	4.11	3.02	3.02	2.83	2.97	3.17	2.92
Exports 3/										
Corn (mil. bu.)	1,241	1,504	1,723	2,036	223	155	192	194	214	—
Feed grains (mil. metric tons) 4/	36.6	46.3	52.3	61.3	6.5	4.8	5.8	5.7	6.2	—
	Marketing year 1/				1989			1990		
	1985/86	1986/87	1987/88	1988/89	Dec-Feb	Mar-May	June-Aug	Sept-Nov	Dec-Feb	Mar-May
Corn										
Stocks, beginning (mil. bu.)	1,648	4,040	4,882	4,259	7,072	5,204	3,419	1,930	7,079	4,213
Domestic use										
Feed (mil. bu.)	4,095	4,714	4,805	3,979	1,082	849	690	1,499	1,270	940
Food, seed, ind. (mil. bu.)	1,160	1,192	1,229	1,245	284	337	330	298	295	348
Exports (mil. bu.)	1,241	1,504	1,723	2,036	508	600	470	582	682	628
Total use (mil. bu.)	6,496	7,410	7,757	7,260	1,869	1,787	1,490	2,379	2,223	1,917

1/ September 1 for corn & sorghum; June 1 for oats & barley. 2/ Beginning March 1987 reporting point changed from Minneapolis to Duluth. 3/ Includes products. 4/ Aggregated data for corn, sorghum, oats, & barley. — not available.

Information contact: James Cole (202) 786-1840.

Table 21.—Fats &amp; Oils

	Marketing year *				1989	1990				
	1985/86	1986/87	1987/88	1988/89	May	Jan	Feb	Mar	Apr	May
Soybeans										
Wholesale price, no. 1 yellow, Chicago (\$/bu.)	5.20	5.03	6.67	7.41	7.30	5.60	5.66	5.85	5.98	6.22
Crushings (mil. bu.)	1,052.8	1,178.8	1,174.5	1,057.7	87.0	107.2	91.8	102.8	95.1	93.4
Exports (mil. bu.)	740.7	756.9	801.6	530.6	23.2	77.4	75.0	88.0	43.6	23.1
Stocks, beginning (mil. bu.)	316.0	536.4	436.4	302.5	72.8	89.7	93.6	91.4	83.4	73.0
Soybean oil										
Wholesale price, crude, Decatur (cts./lb.)	18.02	15.36	22.67	21.09	22.2	19.3	19.3	21.8	24.2	23.7
Production (mil. lb.)	11,817.3	12,783.1	12,974.5	11,737.0	977.4	1,187.4	1,021.7	1,142.4	1,066.6	1,050.1
Domestic disp. (mil. lb.)	10,045.9	10,820.2	10,734.1	10,455.6	831.8	1,036.9	900.1	986.0	1,012.7	1,103.5
Exports (mil. lb.)	1,257.3	1,184.5	1,873.2	1,658.2	161.4	95.4	136.2	164.4	33.0	112.1
Stocks, beginning (mil. lb.)	632.5	946.6	1,725.0	2,092.2	2,759.0	1,604.9	1,717.5	1,702.9	1,664.9	1,716.8
Soybean meal										
Wholesale price, 44% protein, Decatur (\$/ton)	154.88	162.61	221.90	233.46	214.70	172.30	161.90	165.10	165.40	176.60
Production (1,000 ton)	24,951.3	27,758.8	28,060.2	24,942.7	2,081.2	2,548.6	2,170.9	2,432.3	2,263.7	2,224.2
Domestic disp. (1,000 ton)	19,117.2	20,387.4	21,275.9	19,792.5	1,565.1	2,052.4	1,602.8	1,815.6	1,834.9	1,853.1
Exports (1,000 ton)	6,009.3	7,343.0	6,871.0	5,130.8	532.4	570.4	560.1	586.8	433.0	426.3
Stocks, beginning (1,000 ton)	386.9	211.7	240.2	153.5	296.8	328.2	254.0	262.0	311.8	307.7
Margarine, wholesale price, Chicago, white (cts./lb.)	51.2	40.3	40.3	52.3	55.2	52.6	53.6	54.2	54.3	58.0

\* Beginning September 1 for soybeans; October 1 for soybean oil; calendar year for margarine.

Information contacts: Roger Hoskin (202) 786-1840, Tom Bickerton (202) 786-1824.



Table 22.—Farm Programs, Price Supports, Participation &amp; Payment Rates

	Payment rates						Base acres 1/	Program 2/	Partici- pation rate 3/
	Target price	Loan rate	Findley loan rate	Deficiency	Paid land diversion	PIK			
						Percent 4/			
			\$/bu.				Mil. acres		Percent of base
Wheat									
1984/85	4.38	3.30	—	1.00	2.70	85	94.0	20/10/10-20	60/60/20
1985/86	4.38	3.30	—	1.08	2.70	—	94.0	20/10/0	73
1986/87 5/	4.38	3.00	2.40	1.98	2.00	1.10	91.6	22.5/2.5/5-10	85/85/21
1987/88	4.38	2.85	2.28	1.81	—	—	87.6	27.5/0/0	88
1988/89	4.23	2.76	2.21	0.69	—	—	84.8	27.5/0/0	86
1989/90	4.10	2.58	2.06	7/ 0.32	—	—	82.3	10/0/0	78
1990/91	4.00	2.44	1.95	1.00	—	—	80.5	* 5/0/0	80
			\$/cwt						
Rice									
1984/85	11.90	8.00	—	3.78	—	—	4.1	25/0/0	85
1985/86	11.90	8.00	6/ 3.16	3.90	3.50	—	4.2	20/15/0	90
1986/87 5/	11.90	7.20	6/ 3.82	4.70	—	—	4.2	35/0/0	94
1987/88	11.68	6.84	6/ 5.77	4.82	—	—	4.1	35/0/0	96
1988/89	11.15	6.63	6/ 6.30	4.31	—	—	4.1	25/0/0	94
1989/90	10.80	6.50	6/ 6.50	3.56	—	—	4.1	25/0/0	95
1990/91	10.71	6.50	—	3.71	—	—	4.2	20/0/0	92
			\$/bu.						
Corn									
1984/85	3.03	2.55	—	0.43	—	—	80.8	10/0/0	54
1985/86	3.03	2.55	—	0.48	—	—	84.2	10/0/0	69
1986/87 5/	3.03	2.40	1.92	1.11	—	—	81.7	17.5/2.5/0	86
1987/88	3.03	2.28	1.82	1.09	2.00	—	81.5	20/15/0	90
1988/89	2.93	2.21	1.77	7/ 0.38	1.75	—	82.9	20/10/0; 0/92	87
1989/90	2.84	2.06	1.65	7/ 0.58	—	—	82.7	10/0/0; 0/92	80
1990/91	2.75	1.96	1.57	0.15	—	—	82.7	10/0/0; 0/92	76
			\$/bu.						
Sorghum									
1984/85	2.88	2.42	—	0.46	—	—	18.4	8/ (same)	42
1985/86	2.88	2.42	—	0.46	—	—	19.3	—	55
1986/87 5/	2.88	2.28	1.82	1.06	0.65	—	19.0	—	75
1987/88	2.88	2.17	1.74	0.82	1.90	—	17.4	—	84
1988/89	2.78	2.10	1.65	0.48	1.65	—	16.8	—	82
1989/90	2.70	1.96	1.57	7/ 0.66	—	—	16.2	—	71
1990/91	2.61	1.86	1.49	0.21	—	—	15.4	—	75
			\$/bu.						
Barley									
1984/85	2.60	2.08	—	0.26	—	—	11.6	8/ (same)	44
1985/86	2.60	2.08	—	0.52	—	—	13.3	—	57
1986/87 5/	2.60	1.95	1.56	0.99	0.57	—	12.4	—	72
1987/88	2.60	1.86	1.49	0.52	1.60	—	12.5	—	84
1988/89	2.51	1.80	1.44	1.04	1.40	—	12.5	—	79
1989/90	2.43	1.68	1.34	7/ 0.23	—	—	12.4	—	69
1990/91	2.36	1.60	1.26	0.26	—	—	11.9	—	66
			\$/bu.						
Oats									
1984/85	1.60	1.31	—	0.00	—	—	9.8	8/ (same)	14
1985/86	1.60	1.31	—	0.29	—	—	9.4	—	14
1986/87 5/	1.60	1.23	0.99	0.39	0.36	—	9.2	—	37
1987/88	1.60	1.17	0.94	0.20	0.80	—	8.4	—	45
1988/89	1.55	1.13	0.90	0.30	—	—	7.9	5/0/0; 0/92	30
1989/90	1.50	1.06	0.85	0.00	—	—	7.6	5/0/0; 0/92	23
1990/91	1.45	1.01	0.81	0.00	—	—	7.5	5/0/0; 0/92	10
			\$/bu.						
Soybeans 9/									
1984/85	—	5.02	—	—	—	—	—	—	—
1985/86	—	5.02	—	—	—	—	—	—	—
1986/87 5/	—	4.77	—	—	—	—	—	—	—
1987/88	—	4.77	—	—	—	—	—	—	—
1988/89	—	4.77	—	—	—	—	—	—	—
1989/90	—	4.53	—	—	—	—	—	10/ 10/25	—
			Cts./lb.						
Upland cotton									
1984/85	81.0	55.00	—	18.60	—	—	15.6	25/0/0	70
1985/86	81.0	57.30	—	23.70	30.00	—	15.9	20/10/0	82/0/0
1986/87 5/	81.0	55.00	11/ 44.00	26.00	—	—	15.5	25/0/0	83
1987/88	79.4	52.25	12/ —	17.3	—	—	14.6	25/0/0	93
1988/89	75.9	51.80	12/ —	19.4	—	—	14.5	12.5/0/0	89
1989/90	73.4	50.00	12/ —	13.1	—	—	14.6	25/0/0	89
1990/91	72.9	50.27	12/ —	6.3	—	—	14.5	12.5/0/0	86

1/ Includes planted area plus acres considered planted (ARP, PLD, 0-92 etc). Net of CRP. 2/ Percentage of base acres that farmers participating in Acreage Reduction Programs/Paid Land Diversion/PIK were required to devote to conserving uses to receive program benefits. 3/ Percentage of base acres enrolled in Acreage Reduction Programs/Paid Land Diversion/PIK. 4/ Percent of program yield, except 1986/87 wheat, which is dollars per bushel. 1984 PIK rates apply only to the 10-20 portion. 5/ Rates for payments received in cash were reduced by 4.3 percent in 1986/87 due to Gramm-Rudman-Hollings. 6/ Annual average world market price. 7/ Guaranteed to farmers signed up for 0/92. 8/ The sorghum, oats, & barley programs were the same as for corn in each year except 1988-90, when the oats ARP was lower than for the other feed grains. 9/ There are no target prices, acreage programs, or payment rates for soybeans. 10/ Soybean program data refers to percent of program crop base permitted to shift into beans without loss of base. 11/ Loan repayment rate. 12/ Loans may be repaid at the lower of the loan rate or world market prices. \*On September 13, the Secretary announced that participating farmers have the option of planting up to 105 percent of their wheat base to boost 1990 supplies. For every acre planted in excess of 95 percent of base, the acreage used to compute deficiency payments will be cut by 1 acre. — = not available.

Information contact: James Cole (202) 786-1840.

Table 23.—Fruit

	1981	1982	1983	1984	1985	1986	1987	1988	1989 P
Citrus 1/ Production (1,000 ton)	15,105	12,139	13,682	10,832	10,525	11,058	11,993	12,761	13,183
Per capita consumpt. (lbs.) 2/	104.4	109.3	120.0	102.8	109.1	117.3	112.8	113.6	—
Noncitrus 3/ Production (1,000 tons)	13,332	14,658	14,168	14,301	14,191	13,874	16,011	15,884	16,300
Per capita consumpt. (lbs.) 2/	88.0	89.2	88.7	93.9	91.8	96.4	101.5	97.7	—
	1989			1990					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
F.o.b. shipping point prices									
Apples (\$/carton) 4/	8.31	—	9.00	8.83	11.00	11.00	11.00	11.00	11.28
Pears (\$/box) 5/	11.10	—	11.75	12.00	13.85	14.00	14.00	14.00	15.88
Grower prices									
Oranges (\$/box) 6/	6.22	6.47	6.63	4.70	4.93	5.33	6.60	7.03	10.08
Grapefruit (\$/box) 6/	8.18	5.54	5.18	4.62	4.68	6.23	8.19	9.06	5.64
Stocks, ending									
Fresh apples (mil. lbs.)	4,501.9	3,845.6	3,220.8	2,571.7	2,024.6	1,399.6	1,004.3	589.8	283.9
Fresh pears (mil. lbs.)	436.9	368.8	272.8	200.2	153.0	104.8	63.0	26.9	2.3
Frozen fruits (mil. lbs.)	955.1	909.3	805.2	727.9	661.7	609.0	591.0	583.7	651.6
Frozen orange juice (mil. lbs.)	693.1	667.7	749.6	926.6	1,041.5	1,119.2	1,170.0	1,586.2	1,535.0

1/ 1989 indicated 1988/89 season. 2/ Per capita consumption for total U.S. population, including military consumption of both fresh and processed fruit in fresh weight equivalent. 3/ Calendar year. 4/ Red delicious. Washington, extra fancy, carton tray pack, 125's. 5/ D'Anjou, Washington, standard box wrapped, U.S. no. 1, 135's. 6/ U.S. equivalent on-tree returns. P = preliminary. — = not available.

Information contact: Wynnie Napper (202) 786-1885.

Table 24.—Vegetables

	Calendar year									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Production										
Total vegetables (1,000 cwt)	395,225	392,343	430,795	403,509	456,334	453,030	448,629	478,381	470,222	544,195
Fresh (1,000 cwt) 1/ 3/	179,416	183,456	193,451	185,782	201,817	203,549	203,165	220,539	230,484	240,380
Processed (tons) 2/ 3/	10,790,440	10,444,330	11,667,170	10,886,350	12,725,680	12,474,040	12,273,200	12,892,100	11,988,910	15,191,740
Mushrooms (1,000 lbs.)	469,576	517,146	490,826	561,531	595,681	587,956	614,393	631,619	667,367	—
Potatoes (1,000 cwt)	303,905	340,623	355,131	333,726	362,039	406,609	381,743	369,320	356,438	370,497
Sweetpotatoes (1,000 cwt)	10,953	12,799	14,833	12,083	12,902	14,573	12,368	11,611	10,945	11,499
Dry edible beans (1,000 cwt)	26,729	32,751	25,563	15,520	21,070	22,176	22,886	26,031	19,253	24,333
	1989			1990						
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Shipments										
Fresh (1,000 cwt) 4/	15,030	16,605	21,968	17,467	21,552	17,748	19,860	22,475	35,292	30,291
Potatoes (1,000 cwt)	9,005	9,612	12,639	10,389	13,096	10,758	12,095	12,809	16,062	10,136
Sweetpotatoes (1,000 cwt)	288	333	789	451	301	255	251	331	268	167

1/ Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes. 2/ Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, & cauliflower. 3/ Asparagus & cucumber estimates were not available for 1982 & 1983. 4/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, & watermelons. — = not available.

Information contacts: Gary Lucier or Cathy Greene (202) 786-1884.

Table 25.—Other Commodities

	Annual					1989			1990	
	1985	1986	1987	1988	1989	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June
Sugar										
Production 1/	5,969	6,257	7,309	7,087	6,827	677	617	3,709	1,671	572
Deliveries 1/	8,035	7,786	6,187	8,188	8,309	2,056	2,161	2,190	1,968	2,048
Stocks, ending 1/	3,128	3,225	3,195	3,132	2,933	2,351	1,224	2,833	3,112	2,165
Coffee										
Composite green price N.Y. (cts/lb.)	137.46	185.18	109.14	115.59	95.17	118.01	72.29	63.70	73.22	78.55
Imports, green bean equiv. (mil. lbs.) 2/	2,550	2,596	2,638	2,072	2,830	535	784	725	866	702
	Annual			1989	1989			1990		
	1987	1988	1989	Feb	Sept	Oct	Nov	Dec	Jan	Feb
Tobacco										
Prices at auctions 3/										
Flue-cured (\$/lb.)	1.59	1.61	—	—	1.74	1.70	1.58	—	—	—
Burley (\$/lb.)	1.56	1.61	—	1.55	—	—	1.67	1.68	1.68	1.67
Domestic consumption 4/										
Cigarettes (bil.)	575.0	562.5	540.1	41.9	44.4	48.2	50.0	34.4	38.4	—
Large cigars (mil.)	2,728	2,531	2,467.6	171.5	216.2	211.4	212.5	187.0	185.5	—

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green & processed coffee. 3/ Crop year July-June for flue-cured. Oct.-Sept for burley. 4/ Taxable removals. — = not available.

Information contacts: sugar, Peter Buzzanell (202) 786-1888, coffee, Fred Gray (202) 786-1888, tobacco, Verner Gries (202) 786-1890.

## World Agriculture

Table 26.—World Supply &amp; Utilization of Major Crops, Livestock, &amp; Products

	1984/85	1985/86	1986/87	1987/88	1988/89 P	1989/90 P	1990/91 F
	Million units						
<b>Wheat</b>							
Area (hectares)	231.2	229.6	228.2	219.9	218.1	226.2	231.0
Production (metric tons)	511.9	500.1	530.7	501.5	500.7	537.1	583.7
Exports (metric tons) 1/	107.0	85.0	90.7	105.0	96.9	97.0	97.8
Consumption (metric tons) 2/	493.0	496.2	522.5	530.5	531.3	538.2	585.8
Ending stocks (metric tons) 3/	164.0	168.3	176.4	147.5	116.9	115.7	133.7
<b>Coarse grains</b>							
Area (hectares)	334.6	341.3	338.5	323.8	325.0	322.7	323.9
Production (metric tons)	815.8	842.7	831.8	793.4	730.3	799.0	817.2
Exports (metric tons) 1/	100.4	83.2	83.3	83.2	94.5	101.5	90.1
Consumption (metric tons) 2/	782.6	778.4	806.0	814.4	797.8	825.7	825.6
Ending stocks (metric tons) 3/	143.9	208.2	234.0	213.0	145.5	118.8	110.4
<b>Rice, milled</b>							
Area (hectares)	144.1	144.6	145.1	141.4	145.3	146.2	146.0
Production (metric tons)	318.8	318.8	318.7	313.7	330.1	340.6	341.2
Exports (metric tons) 4/	11.4	12.6	12.9	11.9	15.1	12.7	13.0
Consumption (metric tons) 2/	310.6	319.5	322.8	319.7	328.1	334.1	341.0
Ending stocks (metric tons) 3/	54.9	54.9	50.8	44.9	47.0	53.5	53.7
<b>Total grains</b>							
Area (hectares)	709.9	715.5	709.8	685.1	688.4	695.1	700.9
Production (metric tons)	1,646.5	1,661.6	1,681.2	1,608.6	1,561.1	1,878.7	1,742.1
Exports (metric tons) 1/	218.8	180.8	186.9	200.1	206.5	211.2	200.9
Consumption (metric tons) 2/	1,586.2	1,594.1	1,651.3	1,664.6	1,657.2	1,698.0	1,732.4
Ending stocks (metric tons) 3/	362.8	431.4	461.2	405.4	309.4	288.0	297.8
<b>Oilseeds</b>							
Crush (metric tons)	150.7	155.1	161.4	167.7	165.6	171.3	178.6
Production (metric tons)	191.1	196.2	194.4	209.5	202.7	211.2	219.2
Exports (metric tons)	33.1	34.5	37.7	39.5	31.9	34.5	34.8
Ending stocks (metric tons)	21.1	26.8	23.5	24.0	22.1	22.3	21.1
<b>Meals</b>							
Production (metric tons)	101.8	105.0	110.5	115.1	111.7	116.3	121.0
Exports (metric tons)	32.3	34.4	36.7	36.3	38.3	36.6	40.4
<b>Oils</b>							
Production (metric tons)	46.2	46.4	50.3	53.1	53.6	56.5	58.8
Exports (metric tons)	15.6	16.4	16.9	17.7	18.4	19.2	19.5
<b>Cotton</b>							
Area (hectares)	33.9	31.9	29.9	31.1	34.1	32.6	33.9
Production (bales)	88.2	79.6	70.4	81.2	84.8	79.5	88.6
Exports (bales)	20.2	20.2	28.0	23.1	26.1	23.8	24.3
Consumption (bales)	70.0	75.8	82.5	84.1	85.7	88.5	87.0
Ending stocks (bales)	42.4	47.2	35.2	31.9	30.5	24.3	23.4
	1984	1985	1986	1987	1988	1989 P	1990 F
<b>Red meat</b>							
Production (metric tons)	99.8	103.7	106.7	109.7	113.3	114.6	113.9
Consumption (metric tons)	97.8	101.6	105.4	107.9	111.5	113.0	112.0
Exports (metric tons) 1/	6.0	6.4	6.7	6.7	6.9	6.9	7.1
<b>Poultry</b>							
Production (metric tons)	25.2	26.2	27.4	29.3	30.2	31.3	32.7
Consumption (metric tons)	25.0	25.8	27.0	28.7	29.8	30.9	32.1
Exports (metric tons) 1/	1.3	1.2	1.3	1.5	1.7	1.7	1.8
<b>Dairy</b>							
Milk production (metric tons)	413.0	413.4	419.0	427.1	429.8	431.3	437.3

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years & do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1985 data correspond with 1984/85, etc. P = preliminary. F = forecast.

Information contacts: Crops, Frederic Surle (202) 786-1824; red meat & poultry, Linda Bailey (202) 786-1286; dairy, Sara Short (202) 786-1769.



## U.S. Agricultural Trade

Table 27.—Prices of Principal U.S. Agricultural Trade Products

	Annual			1990						
	1987	1988	1989	June	Jan	Feb	Mar	Apr	May	June
<b>Export commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	3.11	3.97	4.65	4.82	4.59	4.41	4.28	4.40	4.10	3.89
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	1.95	2.73	2.85	2.91	2.70	2.71	2.80	3.02	3.09	3.06
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	1.88	2.52	2.70	2.67	2.60	2.59	2.84	2.79	2.84	2.79
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	5.55	7.81	7.06	7.48	8.07	6.05	6.18	6.24	6.40	6.23
Soybean oil, Decatur (cts./lb.)	15.85	23.52	20.21	20.78	19.55	20.54	22.92	23.20	24.49	24.96
Soybean meal, Decatur (\$/ton)	175.57	234.75	218.59	227.38	171.66	181.80	184.34	188.85	178.98	189.50
Cotton, 8-market avg. spot (cts./lb.)	64.35	57.25	63.78	64.16	62.21	65.03	68.06	71.31	74.61	77.06
Tobacco, avg. price at auction (cts./lb.)	144.32	153.61	151.56	141.45	160.77	160.54	160.54	164.68	164.68	164.68
Rice, f.o.b. mill, Houston (\$/cwt)	13.15	19.80	15.88	15.50	15.50	15.69	16.25	16.25	16.25	16.25
Indefinite tallow, Chicago (cts./lb.)	13.79	16.64	14.71	15.10	14.87	14.50	14.47	13.77	13.66	14.00
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb.)	1.09	1.21	1.04	1.21	0.72	0.78	0.85	0.84	0.84	0.78
Rubber, N.Y. spot (cts./lb.)	50.65	59.20	50.65	49.50	44.72	45.75	45.91	45.64	45.80	46.00
Cocoa beans, N.Y. (\$/lb.)	0.87	0.89	0.55	0.64	0.44	0.45	0.50	0.50	0.63	0.57

Information contact: Mary Teymourian (202) 786-1824.

Table 28.—Indexes of Real Trade-Weighted Dollar Exchange Rates<sup>1</sup>

	1989			1990						
	Oct	Nov	Dec P	Jan P	Feb P	Mar P	Apr P	May P	June P	July P
	1985 = 100									
<b>Total U.S. trade 2/</b>	71.7	71.0	69.4	67.8	67.2	68.6	68.1	67.0	67.6	67.2
<b>Agricultural trade</b>										
U.S. markets	79.5	79.5	78.5	78.1	77.9	79.0	79.4	78.7	79.1	79.2
U.S. competitors 3/	83.7	82.4	84.0	80.1	80.3	79.5	79.8	79.6	79.9	80.0
<b>Wheat</b>										
U.S. markets	80.5	80.2	89.4	88.6	88.3	88.3	89.3	89.4	90.0	90.4
U.S. competitors 3/	81.8	80.3	84.6	79.6	80.6	80.6	79.6	79.7	79.7	79.7
<b>Soybeans</b>										
U.S. markets	71.5	71.4	70.0	69.3	69.0	70.8	70.5	69.4	69.9	69.9
U.S. competitors 3/	89.3	85.2	106.3	82.5	82.4	78.4	81.2	81.3	81.7	82.0
<b>Corn</b>										
U.S. markets	72.7	73.3	72.6	72.7	72.6	74.3	74.9	73.8	74.0	74.3
U.S. competitors 3/	86.9	86.3	101.0	85.0	84.8	85.7	85.2	84.9	85.6	85.6
<b>Cotton</b>										
U.S. markets	75.6	76.0	75.7	76.0	76.1	77.7	78.1	77.1	77.5	77.8
U.S. competitors	81.2	79.7	79.3	78.2	77.9	77.2	76.7	76.3	76.0	75.6

1/ Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of Agricultural Outlook for a discussion of the calculations and the weights used.  
 2/ Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets. 3/ Substantial devaluations of the Argentine austral and Brazilian cruzado resulted in a sharp increase in the December, 1989, & subsequent values of these indexes. P = preliminary.

Information contact: Tim Baxter, David Stallings (202) 786-1706.

Table 29.—Trade Balance

	Fiscal year 1/								May
	1983	1984	1985	1986	1987	1988	1989	1990 F	1990
	\$ million								
<b>Exports</b>									
Agricultural	34,769	38,027	31,201	28,312	27,876	35,379	39,651	40,000	3,280
Nonagricultural	159,373	170,014	179,236	178,291	202,911	258,593	302,507	—	28,831
Total 2/	194,142	208,041	210,437	206,603	230,787	293,972	342,158	—	32,091
<b>Imports</b>									
Agricultural	16,373	18,916	19,740	20,884	20,650	21,014	21,479	22,000	1,976
Nonagricultural	230,527	297,736	313,722	342,846	387,374	409,138	441,072	—	38,263
Total 3/	246,900	316,652	333,462	363,730	388,024	430,152	462,551	—	40,239
<b>Trade balance</b>									
Agricultural	18,396	19,111	11,461	5,428	7,226	14,365	18,172	18,000	1,284
Nonagricultural	-71,154	-127,722	-134,488	-183,555	-184,463	-150,545	-138,565	—	-9,432
Total	-52,758	-108,611	-123,025	-158,127	-157,237	-136,180	-120,393	—	-8,148

1/ Fiscal years begin October 1 & end September 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. 2/ Domestic exports including Department of Defense shipments (F.A.S. value). 3/ Imports for consumption (customs value). F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 786-1822.

Table 30.—U.S. Agricultural Exports &amp; Imports

	Fiscal year*			May	Fiscal year*			May
	1988	1989	1990 F	1990	1988	1989	1990 F	1990
EXPORTS	1,000 units				\$ million			
Animals, live (no.) 1/	430	758	—	88	452	475	—	21
Meats & preps., excl. poultry (mt) <sup>2/</sup>	631	869	0	74	1,797	2,355	—	222
Dairy products (mt)	388	584	—	4	536	475	400	22
Poultry meats (mt)	390	486	800	54	424	514	—	60
Fats, oils, & greases (mt)	1,362	1,377	3/1,300	130	545	531	—	47
Hides & skins incl. furskins	—	—	—	—	1,837	1,713	—	161
Cattle hides, whole (no.) 1/	20,817	26,260	—	2,018	1,458	1,360	—	117
Mink pelts (no.) 1/	2,455	3,073	—	640	88	91	—	11
Grains & feeds (mt)	108,944	114,976	—	9,234	12,569	16,837	4/16,300	1,307
Wheat (mt)	40,517	37,702	32,000	1,950	4,469	6,006	5/5,100	294
Wheat flour (mt)	1,236	1,268	1,200	65	170	266	—	16
Rice (mt)	2,173	3,052	2,400	155	731	955	800	80
Feed grains, incl. products (mt)	53,117	61,094	67,200	6,217	5,193	7,379	7,900	766
Feeds & fodders (mt)	11,255	11,071	6/11,500	735	1,720	1,848	—	130
Other grain products (mt)	910	1,197	—	137	362	513	—	58
Fruits, nuts, and preps. (mt)	2,409	2,555	—	272	2,368	2,394	—	280
Fruit juices incl.	—	—	—	—	—	—	—	—
froz. (1,000 hectoliters) 1/	5,497	4,997	—	540	252	264	—	31
Vegetables & preps. (mt)	1,821	2,482	—	233	1,280	1,546	—	201
Tobacco, unmanufactured (mt)	229	212	200	19	1,297	1,274	1,300	124
Cotton, excl. lint (mt)	1,388	1,441	1,800	128	2,136	2,039	2,900	208
Seeds (mt)	286	514	—	25	415	500	600	21
Sugar, cane or beet (mt)	318	368	—	24	98	134	—	11
Oilseeds & products (mt)	29,688	21,090	—	1,206	7,758	6,624	5,900	342
Oilseeds (mt)	21,601	14,775	—	680	5,295	4,400	—	179
Soybeans (mt)	21,142	14,088	16,600	621	5,066	4,079	3,700	148
Protein meal (mt)	6,389	4,816	4,100	398	1,501	1,317	900	79
Vegetable oils (mt)	1,699	1,498	—	127	962	908	—	83
Essential oils (mt)	9	13	—	2	120	171	—	16
Other	610	612	—	6	1,495	1,805	—	206
Total	148,473	147,569	150,000	11,411	35,379	39,651	40,000	3,260
IMPORTS								
Animals, live (no.) 1/	2,238	2,484	—	297	729	740	800	112
Meats & preps., excl. poultry (mt)	1,280	1,092	—	92	2,788	2,433	—	226
Beef & veal (mt)	779	668	725	61	1,681	1,527	1,800	145
Pork (mt)	456	371	345	28	1,001	778	800	74
Dairy products (mt)	232	211	300	22	881	834	800	79
Poultry & products 1/	—	—	—	—	97	130	—	10
Fats, oils, & greases (mt)	20	14	—	2	19	14	—	1
Hides & skins, incl. furskins 1/	—	—	—	—	247	240	—	11
Wool, unmanufactured (mt)	56	62	—	3	292	319	—	11
Grains & feeds (mt)	3,075	3,468	3,500	282	868	1,139	1,100	96
Fruits, nuts, & preps., excl. juices (mt)	4,797	5,036	5,100	532	2,169	2,269	—	224
Bananas & plantains (mt)	3,030	3,039	3,050	314	820	851	900	91
Fruit juices (1,000 hectoliters) 1/	26,758	27,778	30,000	3,144	768	793	—	101
Vegetables & preps. (mt)	2,518	2,953	3,100	154	1,593	1,959	2,300	159
Tobacco, unmanufactured (mt)	217	189	180	16	611	521	500	45
Cotton, unmanufactured (mt)	36	13	—	2	9	8	—	2
Seeds (mt)	143	158	170	11	153	187	200	13
Nursery stock & cut flowers 1/	—	—	—	—	419	466	—	45
Sugar, cane or beet (mt)	1,078	1,630	—	219	372	620	—	94
Oilseeds & products (mt)	1,772	1,917	1,950	156	838	946	900	88
Oilseeds (mt)	208	424	—	41	77	159	—	19
Protein meal (mt)	253	359	—	23	42	65	—	4
Vegetable oils (mt)	1,311	1,133	—	92	725	721	—	66
Beverages excl. fruit juices (1,000 hectoliters) 1/	15,583	13,987	—	1,262	2,008	1,815	—	167
Coffee, tea, cocoa, spices	1,641	1,868	—	207	4,274	3,898	—	325
Coffee, incl. products (mt)	1,050	1,084	1,250	103	2,800	2,467	2,300	162
Cocoa beans & products (mt)	562	564	565	83	1,164	969	900	123
Rubber & allied gums (mt)	846	927	850	66	949	1,051	800	55
Other	—	—	—	—	931	1,097	—	110
Total	—	—	—	—	21,014	21,479	22,000	1,976

\*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. 1/ Not included in total volume. 2/ Forecasts for footnoted items 2/—6/ are based on slightly different groups of commodities. Fiscal 1988 exports of categories used in the 1989 forecasts were 2/ 561,000 m. tons. 3/ 1,347 million dollars. 4/ 12,743 million. 5/ 4,638 million, i.e. includes flour. 6/ 11,095 million m. tons. F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 786-1822.

Table 31.—U.S. Agricultural Exports by Region

Region & country	Fiscal year*			May	Change from year* earlier			May
	1988	1989	1990 F	1990	1988	1989	1990 F	1990
	\$ million				Percent			
<b>WESTERN EUROPE</b>	8,053	7,067	6,900	473	12	-12	-3	0
European Community (EC-12)	7,536	6,558	6,400	443	11	-13	-3	1
Belgium-Luxembourg	429	431	—	30	1	1	—	8
France	563	474	—	31	14	-16	—	-5
Germany, Fed. Rep.	1,315	918	—	61	4	-30	—	4
Italy	713	603	—	51	-3	-16	—	1
Netherlands	2,103	1,847	—	94	8	-12	—	-23
United Kingdom	818	736	—	60	23	-10	—	26
Portugal	340	307	—	29	25	-10	—	-10
Spain, incl. Canary islands	848	876	—	63	29	3	—	77
Other Western Europe	516	510	500	30	20	-1	0	-18
Switzerland	191	166	—	12	32	-13	—	-25
<b>EASTERN EUROPE</b>	559	422	600	45	23	-24	50	19
German Dem. Rep.	67	72	—	0	0	8	—	-83
Poland	167	45	—	17	165	-73	—	196
Yugoslavia	104	78	—	3	-21	-26	—	-16
Romania	93	62	—	24	-19	-33	—	407
<b>USSR</b>	1,940	3,299	3,200	254	194	70	-3	-34
<b>ASIA</b>	18,044	18,685	18,500	1,452	33	17	-11	-8
West Asia (Mideast)	1,904	2,270	2,300	145	14	19	0	-28
Turkey	120	238	—	12	3	97	—	27
Iraq	735	791	700	40	39	8	-13	-53
Israel	334	265	—	26	37	-21	—	37
Saudi Arabia	464	482	500	32	-5	4	0	-46
South Asia	805	1,171	—	43	133	45	—	36
Bangladesh	107	213	—	11	-3	98	—	104
India	354	243	—	7	281	-31	—	-35
Pakistan	276	609	500	25	181	121	-17	-31
China	613	1,494	900	83	161	144	-40	-39
Japan	7,274	8,152	8,300	692	31	12	1	2
Southeast Asia	1,022	974	—	102	44	-5	—	11
Indonesia	245	216	—	21	61	-12	—	-12
Philippines	345	344	400	44	33	0	33	42
Other East Asia	4,326	4,623	4,900	407	24	7	6	-5
Taiwan	1,577	1,564	1,800	125	16	1	-6	-8
Korea, Rep.	2,259	2,453	2,700	217	33	9	8	-12
Hong Kong	488	575	600	65	12	18	0	35
<b>AFRICA</b>	2,272	2,281	2,400	162	27	0	4	-16
North Africa	1,659	1,798	2,000	130	30	8	11	-14
Morocco	193	216	—	14	-2	12	—	69
Algeria	537	649	700	50	120	2	40	-11
Egypt	786	955	800	59	3	21	-20	-32
Sub-Saharan	613	483	400	32	21	-21	-20	-25
Nigeria	44	30	—	1	-35	-31	—	-55
Rep. S. Africa	85	57	—	2	74	-34	—	-66
<b>LATIN AMERICA &amp; CARIBBEAN</b>	4,401	5,442	5,000	442	17	24	-7	8
Brazil	176	152	100	5	-58	-13	-33	-49
Caribbean Islands	867	1,007	—	85	5	16	—	5
Central America	414	448	—	50	10	8	—	28
Colombia	178	139	—	3	55	-22	—	-76
Mexico	1,726	2,757	2,500	249	42	60	11	11
Peru	174	81	—	9	24	-54	—	210
Venezuela	597	587	200	23	30	-2	-66	0
<b>CANADA</b>	1,973	2,187	3,100	405	11	11	40	82
<b>OCEANIA</b>	237	268	300	26	3	13	0	68
<b>Total</b>	35,379	39,651	40,000	3,260	27	12	1	-2
Developed countries	17,905	18,000	18,800	1,619	19	1	4	16
Less developed countries	14,362	16,436	16,500	1,278	25	14	1	-7
Centrally planned countries	3,111	5,215	4,700	363	131	68	-10	-31

\*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. F = forecast. — = not available.  
 Note: Adjusted for transshipments through Canada.

Information contact: Stephen MacDonald (202) 786-1822.



## Farm Income

Table 32.—Farm Income Statistics

	Calendar year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989 F	1990 F
	\$ billion										
1. Farm receipts	142.0	144.1	147.1	141.1	146.8	149.1	140.8	145.3	157.2	164	167 to 175
Crops (incl. net CCC loans)	71.7	72.5	72.3	67.1	69.5	74.3	64.0	63.8	72.6	74	77 to 81
Livestock	68.0	69.2	70.3	69.4	73.0	69.8	71.5	75.7	78.6	84	84 to 87
Farm related 1/	2.3	2.5	4.5	4.6	4.4	5.0	5.1	5.8	5.7	6	5 to 7
2. Direct Government Payments	1.3	1.9	3.5	9.3	8.4	7.7	11.8	16.7	14.5	11	8 to 10
Cash payments	1.3	1.9	3.5	4.1	4.0	7.6	8.1	6.6	7.1	9	6 to 9
Value of PIK commodities	0.0	0.0	0.0	5.2	4.5	0.1	3.7	10.1	7.4	2	0 to 1
3. Total gross farm income (4+5+6) 2/	149.3	166.4	163.5	153.1	174.9	166.4	160.4	171.6	177.6	191	191 to 197
4. Gross cash income (1+2)	143.3	146.0	150.6	150.4	165.2	156.9	152.5	162.0	171.6	175	176 to 183
5. Nonmoney income 3/	12.3	13.8	14.3	13.5	13.4	11.8	10.6	10.0	10.3	10	9 to 11
6. Value of inventory change	-6.3	6.5	-1.4	-10.9	6.3	-2.4	-2.7	-0.4	-4.3	6	2 to 6
7. Cash expenses 4/	109.1	113.2	112.9	113.5	116.6	110.2	100.7	107.5	114.4	121	121 to 124
8. Total expenses	133.1	139.4	140.0	140.4	142.7	134.0	122.4	128.0	135.0	142	142 to 147
9. Net cash income (4-7)	34.2	32.8	37.8	36.9	38.6	46.7	51.8	54.5	57.2	54	55 to 59
10. Net farm income (3-8)	16.1	26.9	23.5	12.7	32.2	32.4	38.0	43.6	42.7	49	47 to 51
Deflated (1982\$)	18.8	28.6	23.5	12.2	29.9	29.2	33.4	37.2	35.2	38	38 to 40
11. Off-farm income	34.7	35.8	36.4	37.0	38.9	42.6	44.6	46.6	51.7	54	56 to 58
12. Loan changes 5/ Real estate	9.9	9.1	3.8	2.3	-1.1	-6.0	-9.0	-7.5	-4.4	-2	-2 to 0
13.   5/ Non-real estate	5.3	6.5	3.4	0.9	-0.8	-9.6	-11.0	-4.6	-0.3	0	0 to 2
14. Rental income plus monetary change	6.1	6.4	6.3	5.3	8.9	8.8	7.8	6.8	6.5	8	7 to 9
15. Capital expenditures 5/	18.0	16.8	13.3	12.7	12.5	9.2	8.5	9.8	10.2	12	10 to 14
16. Net cash flow (9+12+13+14-15)	37.6	37.8	38.1	32.7	33.1	30.7	31.2	39.4	50.8	48	49 to 57

1/ Income from machine hire, custom work, sales of forest products, & other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food & imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, & farm household expenses. 1987 & 1988 expenses include preliminary revisions from the 1987 Census of Agriculture. 5/ Excludes farm households. Totals may not add because of rounding. F = forecast.

Information contact: Diane Bertelsen (202) 786-1808.

Table 33.—Balance Sheet of the U.S. Farming Sector

	Calendar year 1/ 2/										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989 F	1990 F
	\$ billion										
<b>Assets</b>											
Real estate	782.4	784.7	748.8	758.2	671.3	599.3	558.7	584.8	615.1	636	650 to 680
Non-real estate	207.2	202.8	202.8	196.9	263.1	191.4	188.2	198.6	13.0	217	210 to 220
Livestock & poultry	80.6	53.5	53.0	49.5	49.5	46.3	47.8	58.0	65.5	70	68 to 72
Machinery & motor vehicles	87.1	92.2	92.6	92.2	91.1	88.5	86.3	84.6	85.4	87	86 to 89
Crops stored 3/	33.0	29.1	27.7	23.9	29.7	23.6	19.1	20.9	26.2	24	21 to 25
Financial assets	26.5	28.0	29.5	31.3	32.8	33.0	35.2	35.2	35.9	36	36 to 38
Total farm assets	989.6	987.5	951.6	955.1	874.3	790.6	747.1	783.4	828.1	853	870 to 880
<b>Liabilities</b>											
Real estate debt 4/	89.6	98.7	102.5	104.8	103.6	97.6	88.6	81.1	76.7	74	71 to 75
Non-real estate debt 5/	77.1	83.6	87.0	87.9	87.1	77.5	66.6	62.0	61.7	61	60 to 64
Total farm debt	166.8	182.3	189.5	192.7	190.7	175.1	155.1	143.1	138.4	136	132 to 138
Total farm equity	822.8	805.2	762.1	762.4	683.6	615.5	591.9	640.3	689.7	717	735 to 745
	Percent										
<b>Selected ratios</b>											
Debt-to-assets	16.9	18.5	19.9	20.2	21.8	22.1	20.8	18.3	16.7	16	15 to 16
Debt-to-equity	20.3	22.6	24.9	25.3	27.9	28.5	26.2	22.3	20.1	19	18 to 19
Debt-to-net cash income	488	556	497	523	493	375	299	248	242	251	230 to 240

1/ As of Dec. 31. 2/ Estimates of farm assets and equity for 1987-1990 reflect revisions in real estate assets based on the 1987 Census of Agriculture. Revisions in real estate assets for 1983-1986 have not been completed. 3/ Non-CCC crops held on farm's plus value above loan rates for crops held under CCC. 4/ Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 5/ Excludes debt for nonfarm purposes. F = forecast.

Information contacts: Ken Erickson or Jim Ryan (202) 786-1798.

Table 34.—Cash Receipts From Farm Marketings, by State

Region & State	Livestock & products				Crops 1/				Total 1/			
	1988	1989	Apr 1990	May 1990	1988	1989	Apr 1990	May 1990	1988	1989	Apr 1990	May 1990
\$ million 2/												
<b>NORTH ATLANTIC</b>												
Maine	217	215	17	16	197	233	32	16	414	447	49	33
New Hampshire	59	63	6	6	77	79	7	5	136	142	13	11
Vermont	351	375	31	34	51	51	9	6	401	426	41	39
Massachusetts	105	112	10	10	305	317	20	17	410	429	30	27
Rhode Island	13	13	1	1	66	66	6	4	79	79	7	6
Connecticut	183	186	15	15	214	218	23	17	398	404	37	32
New York	1,803	1,946	160	169	865	911	69	58	2,668	2,857	229	226
New Jersey	193	197	17	17	452	483	41	37	645	660	57	55
Pennsylvania	2,332	2,595	221	232	964	966	85	70	3,296	3,581	306	303
<b>NORTH CENTRAL</b>												
Ohio	1,584	1,698	163	172	1,980	2,114	122	106	3,564	3,812	285	279
Indiana	1,716	1,817	167	181	2,320	2,502	174	174	4,036	4,318	341	355
Illinois	2,255	2,252	201	225	3,927	4,458	342	401	6,182	6,710	542	625
Michigan	1,205	1,313	117	125	1,535	1,627	106	102	2,739	2,940	223	227
Wisconsin	4,215	4,337	383	423	764	941	65	44	4,980	5,278	447	466
Minnesota	3,418	3,716	332	358	2,649	2,809	173	179	6,067	6,526	505	537
Iowa	4,988	5,209	443	458	3,787	3,911	299	281	6,775	6,119	742	739
Missouri	2,012	2,168	213	193	1,746	1,732	67	84	3,758	3,900	281	277
North Dakota	851	842	41	35	1,507	1,465	119	103	2,358	2,108	159	138
South Dakota	2,050	2,108	140	145	895	884	64	67	2,945	2,992	204	212
Nebraska	5,390	5,643	470	503	2,409	2,878	177	214	7,800	8,521	647	717
Kansas	4,124	4,245	371	420	2,195	2,079	78	93	6,320	6,324	449	513
<b>SOUTHERN</b>												
Delaware	444	503	34	40	152	160	9	8	595	663	43	48
Maryland	768	870	66	67	457	476	54	30	1,224	1,346	120	97
Virginia	1,300	1,372	136	100	614	685	26	23	1,914	2,058	162	123
West Virginia	218	250	22	19	68	64	3	2	286	314	25	21
North Carolina	2,188	2,505	217	211	1,850	2,046	64	71	4,038	4,551	281	283
South Carolina	490	551	49	45	616	675	24	26	1,106	1,225	73	71
Georgia	2,016	2,270	188	189	1,554	1,598	65	68	3,570	3,889	253	256
Florida	1,132	1,221	98	100	4,688	4,982	405	310	5,820	6,203	503	409
Kentucky	1,530	1,670	103	94	980	1,258	32	34	2,510	2,928	136	128
Tennessee	1,056	1,060	94	88	877	861	34	35	1,933	1,921	128	123
Alabama	1,695	1,932	174	186	728	696	36	37	2,422	2,628	212	222
Mississippi	1,172	1,292	103	110	1,133	1,000	37	34	2,305	2,292	140	145
Arkansas	2,280	2,661	215	229	1,552	1,470	38	36	3,831	4,131	251	264
Louisiana	582	614	51	51	1,295	1,048	33	44	1,876	1,661	84	95
Oklahoma	2,243	2,409	192	198	1,112	1,185	48	69	3,354	3,594	240	267
Texas	6,562	6,863	592	660	3,669	3,897	242	263	10,251	10,760	833	923
<b>WESTERN</b>												
Montana	816	899	60	51	617	710	56	49	1,433	1,610	116	100
Idaho	1,039	1,046	86	88	1,285	1,670	140	112	2,324	2,715	226	199
Wyoming	584	669	44	41	177	186	5	4	761	856	49	44
Colorado	2,666	2,649	194	215	1,034	1,250	92	78	3,700	3,899	286	293
New Mexico	909	974	76	72	375	450	18	25	1,283	1,424	94	97
Arizona	792	744	53	70	1,177	1,158	53	103	1,969	1,902	106	173
Utah	528	574	42	45	173	174	20	7	701	748	63	52
Nevada	159	141	12	13	79	94	10	4	238	235	22	17
Washington	1,140	1,201	102	107	2,196	2,438	168	139	3,336	3,639	269	247
Oregon	673	739	61	52	1,508	1,558	79	59	2,182	2,297	140	112
California	4,882	5,093	369	478	11,970	12,422	698	906	16,852	17,515	1,067	1,383
Alaska	10	9	1	1	20	20	1	1	30	29	2	2
Hawaii	89	92	8	8	490	495	39	40	579	587	47	48
<b>UNITED STATES</b>	<b>78,821</b>	<b>83,724</b>	<b>6,961</b>	<b>7,364</b>	<b>71,372</b>	<b>75,449</b>	<b>4,607</b>	<b>4,694</b>	<b>150,192</b>	<b>159,173</b>	<b>11,568</b>	<b>12,059</b>

1/ Sales of farm products include receipts from commodities placed under CCC loans minus value of redemptions during the period. 2/ Estimates as of end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 786-1804.

Table 35.—Cash Receipts From Farming

	Annual						1989	1990				
	1984	1985	1986	1987	1988	1989	May	Jan	Feb	Mar	Apr	May
	\$ million											
Farm marketings & CCC loans*	142,784	144,114	135,197	141,653	150,192	159,173	11,530	14,634	10,594	12,261	11,568	12,059
Livestock & products	72,895	69,822	71,539	76,010	78,821	83,724	6,849	7,520	6,614	7,380	6,961	7,364
Meat animals	40,760	39,550	39,061	44,476	45,884	48,591	3,656	4,233	3,748	4,172	3,924	4,193
Dairy products	17,931	18,055	17,724	17,727	17,841	19,401	1,605	1,823	1,585	1,716	1,665	1,782
Poultry & eggs	12,245	11,209	12,701	11,517	12,867	15,346	1,419	1,288	1,139	1,333	1,215	1,228
Other	1,968	2,008	2,034	2,288	2,429	2,386	169	176	142	159	157	161
Crops	66,889	74,293	63,658	65,643	71,372	75,449	4,681	7,114	3,980	4,881	4,607	4,694
Food grains	9,731	8,990	6,741	5,780	7,464	8,073	364	744	339	382	298	390
Feed crops	16,138	22,591	16,912	14,543	14,305	16,656	963	2,074	1,101	1,360	1,218	1,359
Cotton (lint & seed)	3,674	3,687	3,371	4,189	4,546	4,740	118	509	311	259	166	192
Tobacco	2,813	2,699	1,921	1,826	1,960	2,381	0	335	53	1	18	0
Oil-bearing crops	13,841	12,475	10,614	11,284	13,537	12,172	464	1,448	456	757	538	505
Vegetables & melons	9,152	8,572	8,849	9,889	9,754	11,340	1,301	731	510	819	944	1,088
Fruits & tree nuts	6,734	6,946	7,248	8,058	9,139	9,020	557	554	406	340	210	237
Other	8,008	8,333	9,002	10,064	10,665	11,068	914	719	702	962	1,215	923
Government payments	6,430	7,704	11,813	16,747	14,480	10,887	1,453	338	1,045	2,331	1,176	620
Total	151,214	151,818	147,010	158,400	164,672	170,060	12,983	14,972	11,639	14,592	12,744	12,679

\* Receipts from loans represent value of commodities placed under CCC loans minus value of redemptions during the month.

Information contact: Roger Strickland (202) 786-1804.

Table 36.—Farm Production Expenses

	Calendar year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989 F	1990 F
	\$ million										
Feed	20,971	20,855	18,592	21,726	19,852	18,015	16,179	18,898	22,462	24,000	21,000 to 25,000
Livestock	10,670	8,999	9,684	8,814	9,498	8,958	9,744	11,845	12,812	13,000	12,000 to 15,000
Seed	3,220	3,428	3,172	2,993	3,448	3,350	2,984	3,099	3,138	4,000	3,000 to 5,000
Farm-origin inputs	34,861	33,282	31,448	33,632	32,798	30,323	28,907	33,752	38,412	41,000	38,000 to 42,000
Fertilizer	9,491	9,409	8,018	7,067	7,429	7,258	5,787	6,210	7,000	8,000	7,000 to 9,000
Fuels & oils	7,879	8,570	7,888	7,503	7,143	6,584	4,790	5,042	5,144	6,000	5,000 to 7,000
Electricity	1,526	1,747	2,041	2,146	2,166	2,150	1,942	2,393	2,572	3,000	2,000 to 4,000
Pesticides	3,539	4,201	4,282	4,154	4,767	4,994	4,484	4,568	4,718	5,000	5,000 to 6,000
Manufactured inputs	22,435	23,927	22,229	20,870	21,505	20,966	17,003	18,233	19,432	22,000	21,000 to 24,000
Short-term interest	8,717	10,722	11,349	10,815	10,396	8,821	7,795	7,305	7,287	8,000	7,000 to 9,000
Real estate interest 1/	7,644	9,142	10,481	10,815	10,733	9,878	9,131	8,187	7,885	7,000	6,000 to 8,000
Total interest charges	16,261	19,864	21,830	21,430	21,129	18,699	16,926	15,492	15,172	15,000	14,000 to 16,000
Repair & maintenance 1/2/	7,075	7,021	6,428	6,529	6,416	6,370	6,426	6,546	6,858	7,000	7,000 to 8,000
Contract & hired labor	9,293	8,931	10,075	9,725	9,729	9,799	9,890	10,821	11,202	11,000	10,000 to 12,000
Machine hire & custom work	1,823	1,984	2,026	1,896	2,170	2,184	1,810	1,956	2,171	2,000	2,000 to 3,000
Marketing, storage, & transportation	3,070	3,523	4,301	3,904	4,012	4,127	3,652	3,823	3,279	4,000	4,000 to 5,000
Misc. operating expenses 1/	8,881	6,909	7,262	9,089	9,106	8,232	7,993	8,306	8,809	9,000	9,000 to 10,000
Other operating expenses	28,142	28,368	30,089	31,143	31,433	30,712	29,771	31,452	32,319	34,000	33,000 to 37,000
Capital consumption 1/	21,474	23,573	24,287	23,873	23,105	20,847	18,918	17,664	17,722	18,000	18,000 to 20,000
Taxes 1/	3,891	4,246	4,036	4,469	4,059	4,231	4,125	4,345	4,378	4,000	4,000 to 5,000
Net rent to nonoperator landlord	6,075	6,184	6,059	5,060	6,640	8,158	6,737	7,060	7,527	8,000	8,000 to 9,000
Other overhead expenses	31,440	34,003	34,381	33,402	35,804	33,236	29,780	29,069	29,627	31,000	31,000 to 33,000
Total production expenses	133,139	139,444	139,980	140,377	142,669	133,956	122,387	127,998	134,963	142,000	142,000 to 147,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses include other livestock purchases & dairy assessments. Totals may not add because of rounding. F = forecast. 1987 & 1988 expenses include preliminary revisions from the Census of Agriculture.

Information contacts: Chris McGath (202) 786-1804, Diane Bertelsen (202) 786-1808.

Table 37.—CCC Net Outlays by Commodity &amp; Function

COMMODITY/PROGRAM	Fiscal year									
	1982	1983	1984	1985	1986	1987	1988	1989	1990 E	1991 E
	\$ million									
Feed grains										
Corn	4,281	5,720	-934	4,403	10,524	12,348	8,227	2,883	2,638	1,865
Grain sorghum	988	814	76	483	1,185	1,203	764	487	433	222
Barley	129	298	89	336	471	394	57	46	-88	37
Oats	-1	11	6	2	26	17	-2	1	-7	0
Corn & oat products	0	2	6	7	6	7	7	8	8	9
Total feed grains	6,397	6,815	-759	5,211	12,211	13,967	9,053	3,384	2,984	1,933
Wheat	2,238	3,419	2,536	4,691	3,440	2,836	678	63	578	1,951
Rice	164	664	333	990	947	906	128	631	701	609
Upland cotton	1,190	1,363	244	1,553	2,142	1,786	666	1,461	-109	434
Tobacco	103	880	348	455	253	-348	-453	-367	-242	-223
Dairy	2,182	2,528	1,502	2,085	2,337	1,166	1,295	679	423	448
Soybeans	169	288	-585	711	1,597	-476	-1,876	-85	116	50
Peanuts	12	-9	1	12	32	8	7	13	-6	3
Sugar	-5	49	10	184	214	-65	-248	-25	0	0
Honey	27	48	90	81	89	73	100	42	63	50
Wool	54	94	132	109	123	182	1/ 5	93	112	187
Operating expense 3/	294	328	362	346	457	535	614	620	627	634
Interest expenditure	-13	3,525	1,064	1,435	1,411	1,219	395	65	653	527
Export programs 4/	65	398	743	134	102	276	200	-102	-39	67
1989/89 Disaster/										
Livestock Assistance	0	0	0	0	0	0	0	3,919	2/ 196	78
Other	-225	-1,542	1,295	-314	486	371	1,695	143	687	887
Total	11,652	18,851	7,315	17,683	25,841	22,408	12,461	10,523	6,742	7,651
FUNCTION										
Price-support loans (net)	7,015	8,438	-27	6,272	13,628	12,199	4,579	-826	-276	197
Direct payments										
Deficiency	1,185	2,780	612	6,302	6,166	4,833	3,971	5,798	4,158	4,584
Diversion	0	705	1,504	1,525	64	382	8	-1	0	0
Dairy termination	0	0	0	0	489	587	260	188	178	100
Other	0	0	0	0	27	60	0	42	1	11
Disaster	306	115	1	0	0	0	6	4	0	0
Total direct payments	1,491	3,600	2,117	7,827	6,746	5,862	4,245	6,011	4,337	4,695
1988/89 crop disaster	0	0	0	0	0	0	0	3,386	2/ 16	0
Emergency livestock/										
storage assistance	16	0	0	0	0	0	31	533	180	78
Purchases (net)	2,031	2,540	1,470	1,331	1,670	-479	-1,131	116	-122	37
Producer storage										
payments	679	964	266	329	465	832	658	174	175	27
Processing, storage,										
& transportation	355	665	639	657	1,013	1,059	1,113	659	380	306
Operating expense 3/	294	328	362	346	457	535	614	620	627	634
Interest expenditure	-13	3,525	1,064	1,435	1,411	1,219	395	65	653	527
Export programs 4/	65	398	743	134	102	276	200	-102	-39	67
Other	-281	-1,807	679	-648	329	305	1,757	-13	811	1,085
Total	11,652	18,851	7,315	17,683	25,841	22,408	12,461	10,523	6,742	7,651

1/ Fiscal 1988 wool & mohair program outlays were \$130,635,000 but include a one-time advance appropriation of \$126,108,000, which was recorded as a wool program receipt by Treasury. 2/ Benefits to farmers under the Disaster Assistance Act of 1989 are being paid in generic certificates & are not recorded directly as disaster assistance outlays. 3/ Does not include CCC Transfers to General Sales Manager. 4/ Includes Export Guarantee Program, Direct Export Credit Program, & CCC Transfers to the General Sales Manager. E = Estimated in the fiscal 1991 Mid-Session Review based on June, 1990 supply and demand estimates. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski (202) 447-5148.



## Food Expenditures

**Table 38.—Food Expenditure Estimates**

	Annual			1990			1990 year-to-date		
	1987	1988	1989	Apr	May P	June P	Apr	May P	June P
\$ billion									
Sales 1/ Off-premise use 2/ Meals & snacks 3/	242.1 182.0	255.1 196.4	271.6 208.0	22.9 18.0	24.2 18.7	24.2 18.9	90.4 68.3	114.6 87.1	138.8 106.0
1989 \$ billion									
Sales 1/ Off-premise use 2/ Meals & snacks 3/	268.7 198.2	271.7 205.4	271.5 208.0	21.7 17.3	23.0 18.0	22.8 18.0	85.4 66.2	108.3 84.1	131.1 102.2
Percent change from year earlier (\$ bil.)									
Sales 1/ Off-premise use 2/ Meals & snacks 3/	3.2 10.9	5.4 5.2	6.5 6.4	5.8 4.5	4.4 4.9	4.0 3.4	6.2 4.9	5.8 4.9	5.5 4.6
Percent change from year earlier (1989 \$ bil.)									
Sales 1/ Off-premise use 2/ Meals & snacks 3/	-1.1 6.6	1.1 3.6	-0.1 1.3	-0.5 -0.5	-0.8 -0.1	-2.1 -1.5	-1.2 0.1	-1.1 -0.1	-1.3 -0.2

1/ Food only (excludes alcoholic beverages). Not seasonally adjusted. 2/ Excludes donations & home production. 3/ Excludes donations, child nutrition subsidies, & meals furnished to employees, patients, & inmates. P = preliminary.

NOTE: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food not alcoholic beverages & pet food, which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced & consumed on farms & food furnished to employees; (4) this series includes all sales of meals & snacks. PCE includes only purchases using personal funds, excluding business travel & entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," Agr.-Econ. Rpt. No. 575, Aug 1987.

Information contact: Alden Manchester (202) 786-1880.

## Transportation

**Table 39.—Rail Rates; Grain & Fruit/Vegetable Shipments**

	Annual			1989	1990					
	1987	1988	1989	June	Jan	Feb	Mar	Apr	May	June
Rail freight rate index 1/ (Dec. 1984=100)										
All products	100.1	104.8	106.4	106.4	107.1	107.1	107.1 P	107.4 P	107.3 P	107.0 P
Farm products	99.3	105.6	108.4	107.7	109.3	109.4	109.1 P	109.9 P	110.1 P	109.2 P
Grain	98.7	105.4	108.7	108.0	109.1	109.1	109.2 P	110.3 P	110.0 P	108.9 P
Food products	98.6	103.2	103.9	103.8	105.8	105.0	105.0 P	105.6 P	105.4 P	104.5 P
Grain shipments										
Rail carloadings (1,000 cars) 2/	29.0	30.7	28.4	27.2	32.7 P	32.4 P	29.5 P	27.9 P	25.8 P	27.9 P
Fresh fruit & vegetable shipments										
Piggy back (1,000 cwt) 3/ 4/	588	535	505	710	466	453	370	401	598	572
Rail (1,000 cwt) 3/ 4/	630	607	591	836	704	684	572	452	590	802
Truck (1,000 cwt) 3/ 4/	9,137	9,679	9,707	12,344	7,698	7,776	8,738	10,179	11,646	12,749
Cost of operating trucks hauling produce 5/										
Owner operator (cts./mile)	116.3	118.7	124.1	123.4	128.9	127.5	127.0	127.5	127.2	126.4
Fleet operation (cts./mile)	116.5	118.4	123.4	122.7	128.7	127.5	126.5	127.1	126.7	125.8

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. 3/ Weekly average; from Agricultural Marketing Service, USDA. 4/ Preliminary data for 1989 & 1990. 5/ Office of Transportation, USDA. P = preliminary.

Information contact: T.Q. Hutchinson (202) 785-1840.

## Indicators of Farm Productivity

**Table 40.—Indexes of Farm Production Input Use & Productivity**

	1981	1982	1983	1984	1985	1986	1987	1988	1989 2/	1990 2/
1977=100										
Farm output	118	118	96	112	118	111	110	102	111	116
All livestock products 3/	109	107	109	107	110	110	113	116	116	117
Meat animals	106	101	104	101	102	100	102	104	103	101
Dairy products	108	110	114	110	117	118	118	118	118	120
Poultry & eggs	119	119	120	123	128	133	144	150	156	183
All crops 4/	117	117	88	111	118	109	108	92	108	111
Feed grains	121	122	67	116	134	123	106	73	108	—
Hay & forage	106	109	100	107	106	106	102	89	101	—
Food grains	144	138	117	129	121	106	107	98	107	—
Sugar crops	107	96	93	95	97	106	111	105	106	—
Cotton	109	85	55	91	94	89	103	107	96	—
Tobacco	108	104	75	90	81	83	62	72	74	—
Oil crops	114	121	81	106	117	110	108	89	106	—
Cropland used for crops	102	101	88	99	98	94	88	86	90	—
Crop production per acre	115	116	100	112	120	116	122	107	119	—
Farm input 5/	102	99	97	95	92	87	86	85	—	—
Farm real estate	104	102	101	97	95	93	92	91	—	—
Mechanical power & machinery	98	92	88	84	80	75	72	71	—	—
Agricultural chemicals	129	118	105	121	123	110	111	113	—	—
Feed, seed, & livestock purchases	108	108	110	106	106	103	111	107	—	—
Farm output per unit of input	116	117	99	119	128	127	128	120	—	—
Output per hour of labor										
Farm 6/	123	125	99	121	139	139	142	134	—	—
Nonfarm 7/	100	99	102	105	106	108	109	111	—	—

1/ For historical data & indexes, see Economic Indicators of the Farm Sector: Production & Efficiency Statistics, 1986, ECIFS 5-6. 2/ Preliminary indexes for 1989 based on Crop Production, 1989 Summary, released in January 1990, & unpublished data from the Agricultural Statistics Board, NASS. 3/ Gross livestock production includes minor livestock products not included in the separate groups shown. It cannot be added to gross crop production to compute farm output. 4/ Gross crop production includes some miscellaneous crops not in the separate groups shown. It cannot be added to gross livestock production to compute farm output. 5/ Includes other items not included in the separate groups shown. 6/ Economic Research Service. 7/ Bureau of Labor Statistics. — = not available.

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## Food Supply and Use

**Table 41.—Per Capita Consumption of Major Food Commodities**

(See the January-February 1990 issue.)

Information contact: Judy Putnam (202) 786-1870.

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